Š

```
Sequence 22, Application US/09384305

Patent No. 6184028

Patent Northard No. 6184028

Patent Northard No. 6184028

Patent Northard Northard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 Gecerraagecerecaaresarrerreasaaaaaaaaagacearaaaaraceres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                               Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                      Sequence
Sequence
Sequence
                                                                                                                                                                                                                                      Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                               Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 27, Application US/09258377
Patent No. 6255076
GENERAL INFORMATION:
APPLICANT: Widner, William
APPLICANT: Sloma, Alan
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Methods For Producing A polypeptide In
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%; Pred. No. 5.3e-43;
Matches 185; Conservative 0; Mismatches 0;
US-10-186-042-3
US-09-769-64-58
US-09-384-305-15
US-09-258-377-19
US-08-873-77-19
US-08-972-661A-25
US-08-972-661A-25
US-09-28137-9
US-09-031-442A-10
US-09-031-442A-10
US-09-031-442A-10
US-09-031-442A-10
US-09-091-861B-8
US-09-191-861B-8
US-09-191-867B-8
US-08-107-55A-8
US-08-107-755A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                                                                                   640681
1511
1511
1511
1511
8700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
  US-09-258-377-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 1
US-09-384-305-22
                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
     800466666666444444466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Appl
Appl
Appli
Ap
                                                                                                                                                                                            March 19, 2004, 01:23:55; Search time 44 Seconds (without alignments) 2333.316 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3, 1
                                                                                                                                                                                                                                                                                                                                                        ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /cgn2 6/ptodata/2/ina/5A COWB.seg:*
/cgn2 6/ptodata/2/ina/5B_COMB.seg:*
/cgn2 6/ptodata/2/ina/6A_COMB.seg:*
/cgn2 6/ptodata/2/ina/6B_COMB.seg:*
/cgn2 6/ptodata/2/ina/PcTUS_COMB.seg:*
/cgn2 6/ptodata/2/ina/pcTUS_COMB.seg:*
                                  GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-384-305-22
US-09-258-377-27
US-09-258-377-25
US-09-258-377-26
US-09-258-377-25
US-08-377-25
US-08-377-25
US-08-377-25
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-871-24
US-08-459-871-24
US-08-459-810-3
US-08-610-3
US-08-61182-888-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-672-459-3
US-09-636-252A-3
US-09-545-586-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        682709 seqs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                           nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                            IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Issued Patents NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                  US-09-834-271A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              185
10185
10185
2604
2604
162
162
1052
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
20084
200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40000000000000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . . . .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                    score:
                                                                                                                                                                                                                                                                                                                                                                                                              Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB E
Maximum DB E
                                                                                                                                              nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database :
                                                                                                                                                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                        Title:
Perfect :
                                                                                                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          とのじととことにしてしてしてして
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
```

Š.

ö

9 9 120 120

```
Sequence 20, Application US/09384305

Sequence 20, Application US/09384305

Patent No. 1844028

APPLICANT: Michael D. Thomas

TITLE OF INVENTION: Polypebides Having Pectin

TITLE OF INVENTION: Acetylesterase Activity And Nucleic Acids Encoding Same

FILE REPERENCE: 9522.000-08.

CURRENT PLILING DATE: 1999-08-26

NUMBER OF SEQ ID NOS: 25

SEQ ID NO 20

LEMICH: 185

MANDEL 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 ATALAGGGGGTTGACATTATTTTACTGATATGTATAATATTATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 ATAAAGGGGGGTTGACTATTTTACTGATATGTATAATATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 97.4%; Score 180.2; DB 3; Length 185; Best Local Similarity 98.4%; Pred. No. 1.2e-41; Matches 182; Conservative 0; Mismatches 3; Indels 0.
                                                                        Sequence 26, Application US/09258377
; Sequence 26, Application US/09258377
; Parent No. 6225076;
GENERAL INFORMATION:
APPLICANT: Widner, William
; APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Methods For Producing A polypeptide In a TITLE OF INVENTION: Methods For Producing A polypeptide In a FILE REFERENCE: 5452.200-US
; TITLE OF INVENTION: MUMBER: US/09/258,377
; CURRENT APPLICATION NUMBER: US/09/258,377
; CURRENT FILING DATE: 1999-02-26
; EARLIER PILING DATE: 1999-02-26
; EARLIER FILING DATE: 1998-02-26
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 26
; LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.1%; Score 183.4; DB 3 99.5%; Pred. No. 1.5e-42; iive 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: DAY
; TYPE: DAY
; ORGANISM: Bacillus subtilis
US-09-384-305-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 AGCTC 185
181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
, ORGANISM: Bacillus
US-09-258-377-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 5
US-09-384-305-20
                                                                 RESULT 4
US-09-258-377-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 21, Application US/09384305

Parent No. 6184028

GENERAL INFORMATION:
APPLICANT: Michael D. Thomas
APPLICANT: Michael D. Thomas
APPLICANT: Michael D. Thomas
APPLICANT: Kimberly M. Brown
TITLE OF INVENTION: Polypeptides Having Pectin
TITLE OF INVENTION: Acetylesterase Activity And Nucleic Acids Encoding Same, FILE REPERENCE: 5952.000-US
CURRENT APPLICATION NUMBER: US/09/384,305
CURRENT FILING DATE: 1999-08-26
NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATATTGTATAAGAAAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 ATAAAGGGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 eccritaacccrccaarccarrcrrrcacaaaacaacaaccaraaaaracrrcr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cretcarcacacaegerarrirrrarecrerccaeacrercecrereraaaaaaaeaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                         1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                 1 GGCCTTAAGGGCCTGCAATCGATTGTTGAGAAAAAAAAAGAGACCATAAAAATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
99.1%; Score 183.4; DB 3; Length 185;
Best Local Similarity 99.5%; Pred. No. 1.5e-42;
Matches 184; Conservative 0; Mismatches 1; Indels 0
                                                                                                                                                                                                                                                                                                        Length 185;
                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                           100.0%; Score 185; DB 3;
100.0%; Pred. No. 5.3e-43;
ive 0; Mismatches 0;
TITLE OF INVENTION: Bacillus Cell
FILE REFERENCE: 5455.200-02
CURRENT APPLICATION NUMBER: US/09/258,377
CURRENT FILING DATE: 1999-02-26
EARLIER APPLICATION NUMBER: 09/031,442
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
EIGNOTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
; ORGANISM: Bacillus subtilis
US-09-384-305-21
                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 185; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 AGCTC 185
                                                                                                                                                                                                                       ; TYPE: DNA; ORGANISM: Bacillus
US-09-258-377-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 3
US-09-384-305-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

120

9 9

Gaps

. 0

ö

Gaps

ö

```
2237 TGCAATCGATTGTTTGAGAAAGAAGAAGACGATAAAAATACCTTGTCTTGTCATCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2297 degraritrirargergreckdacrerececrererakakakaraaggaaraagggerr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 98.1%; Score 157.2; DB 3; Length 2604; Similarity 98.1%; Pred. No. 5.2e-35; Sindels 0; Mismatches 3; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3, Application US/09264097

Sequence 3, Application US/09264097

Patent No. 6287826

GENERAL INFORMATION:
APPLICANT: NO. 6287826man, Barrie Edmund
APPLICANT: No. 6287826man, Barrie Edmund
APPLICANT: Hendriksen, Hanne Vang
ITILE OF INVENTION: Enzymatic Preparation of Glucose Syrup
ITILE OF INVENTION: Enzymatic Preparation of Glucose Syrup
ITILE OF INVENTION: Enzymatic Preparation
CURRENT APPLICATION NUMBER: US/08/264,097

CURRENT APPLICATION NUMBER: PA 0321/98

EARLIER FILING DATE: 1998-03-09

EARLIER FILING DATE: 1998-03-24

NUMBER OF SEQ ID NOS: 8

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 3

ELENGTH: 2604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 10216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2357 GTTATTATTTTACTGATATGTAAATTATAATTTGTATAAGAAATG 2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 GACATTATTTTACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match

85.4%; Score 158; DB 2; Lv
Best Local Similarity 97.0%; Pred. No. 4.2e-35;
Matches 161; Conservative 0; Mismatches 5;
COMPUTER READABLE FORM:
MEDULUM TYPE: Diskette
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
COMPUTER: IBM COMPA:
COMPUTER: IBM COMPA:
SOFTHANG SYSTEM: DOS
SOFTHAND APPLICATION DATA:
APPLICATION NUMBER: US/08/875,154
FILING DATE: ITHORDATION:
ATTORNEY AGENT TINCOMATION:
NAME: Lambiris, Elias J
REGISTRATION NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 4381.204-US
TELEPONNICATION INCRMATION:
TELEPONDINICATION INCRMATION:
TELEPONDINICATION INCRMATION:
TELEPONDINICATION INCRMATION:
SEQUENCE CHARACTERISTICS:
TENGTHAND SEG ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Bacillus amyloliquefaciens
US-09-264-097-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "pMOL553"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 10216 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Simil
Matches 159; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-264-097-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-875-154-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/08875154
Sequence 1, Application US/08875154
Sequence 1. Se82888
GENERAL INFORMATION:
APPLICANT: JOYGENSEN, Streen Troels
ATITLE OF INVENTION: DNA Integration By Transporation
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5882880 No. 5882888disk of No. 5882888th America, Inc.
STREET: 405 Lexington Avenue
CITY: New York
STRIE: NY
COUNTRY: USA
                                                    GTGTAAAAATAGGA 120
                                                                                                61 crercarcadacadederarrrrrrarecrerceadacrercecerereraaaaaradea 120
                                                                                                                                                  ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                              121 ATAAAGGGGGGTTGTTATTATTTTACTGATATGTAAATTATAATTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CTGTCATCAGAGAGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 ATAAAGGGGGTTGTTATTTTACTGATATGTAAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
  61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 ATAAAGGGGGTTGACATTATTTACTGATATGTATAATAAATTTGTATAAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GCCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 25, Application US/09258377

Sequence 25, Application US/09258377

Patent No. 6255076

SCHERAL INPORMATION:
APPLICANT: Winder, William
APPLICANT: Towns, Milliam
APPLICANT: Time of Inventions Michael D.
TITLE OF INVENTION: Bacillus Cell
TITLE OF INVENTION: Bacillus Cell
TITLE OF STERERORE : 5455.200-US
CURRENT APPLICATION UNDERS: 1999-02-26
SARLIER FULING DATE: 1998-02-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 25
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97.4%; Score 180.2; DB 3 98.4%; Pred. No. 1.2e-41; ive 0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 98.4
Matches 182, Conservative
                                                                                                                                                                                                                                                181 AGCTC 185
                                                                                                                                                                                                                                                                                               181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                      RESULT 6
US-09-258-377-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-258-377-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
US-08-875-154-1
                                                    61
                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                 à
                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                ਨੇ
```

73

133

ô

ó

Gaps

.

```
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 24, Application US/08434255
; Sequence 24, Application US/08434255
; Patent No. 5621089
; GENERAL INFORMATION:
; APPLICAMT: 30-ma, Alan P.
; APPLICAMT: Dambmann, Claus
APPLICAMT: Dambmann, Claus
APPLICAMT: Dambmann, Claus
APPLICAMT: ALKALINE PROTEASE
; APPLICAMT: ALKALINE PROTEASE
; CORRESPONDENCES: 27
; CORRESPONDENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       653 ATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGTTA 712
593 Arccarrerricacaaaaaaaaaaaaccaraaaaaraccrrcricaccarcaacacacca 652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        653 ATTITITATGCIGICCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGTTA 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 2604;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138 TIATITIACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                138 TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                          713 rratritractgarargraaarrataarrigraraagaaarg 754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.0%; Score 157.2; DB 4 98.1%; Pred. No. 5.2e-35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Andersen, Carsten
APPLICANT: Andersen, Christel T.
APPLICANT: Bisgard-Franczen, Henrik
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Kjaerulff, Soren
TITLE OF INVENTION: Alpha-Amylase Variants
FILE REFERENCE: 5886.200-US
CURRENT APPLICATION NUMBER: US/09/537,168
CURRENT FILING DATE: 1999-03-29
EARLIER APPLICATION NUMBER: PA 1999 00437
EARLIER APPLICATION NUMBER: PA 1999 00437
EARLIER PLING DATE: 1999-03-30
EARLIER PLING DATE: 1999-04-01
NUMBER OF SEQ ID NOS: 40
NUMBER OF SEQ ID NOS: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA
; ORGANISM: Bacillus amyloliquefaciens
US-09-537-168-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 5, Application US/09537168 Patent No. 6410295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 98.1
Matches 159, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2604
                                                                                                                           78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                ò
```

ô

Gaps ö

Length 162;

9

```
GENERAL INCOMMITON:

APPLICANT: Sloma, Alan P.

APPLICANT: Outtrup, Helle

APPLICANT: Dambmann, Claus

APPLICANT: Dambmann, Claus

APPLICANT: Dambmann, Claus

APPLICANT: Asalyng, Dorrit

TITLE OF INVENTION: ALKALINE PROTEASE

NUMBER OF SEQUENCES: 27

CORRESPONDENCE ADDRESS:

ADDRESSEE: No. 56503260 No. 5650326disk of No. 5650326th America, Inc.

STREET: 405 Lexington Avenue, 64th Floor

CITY: New York

STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTITITATGCTGTCCAGACTGTCCGGTGTGTAAAAATAGGAATAAAGGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                               78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                   1 Arccarrerrendadadadadadacaradadaracerrererererendadagar
                                                                                                                                                                                                     83.2%; Score 154; DB 1; Length 16
96.9%; Pred. No. 2.3e-34;
ive 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138 TIATTTTACTGATATGTATATATATTTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 riairiracidarardraaararaarrigraraadaaaard 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNATE: New JOIN
SIGNATE: New JOIN
ZIP: 10174-6401
COMPUTER READBLE FORM:
MEDIUW TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: DC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER:
FILING DATE: 02-UM-1995
ATONENTON NUMBER: US/08/459,871
FILING DATE: 03-WA'-1995
ATONEN'AGENT INFORMATION:
APPLICATION NUMBER: US/08/434,255
ATONEN'AGENT INFORMATION:
NAME: AGT:S Dr., Cheryl H.
REGISTRATION NUMBER: 34,086
REFRENCE/DOCKET NUMBER: 374,400-US
TELEPHONE: 212-867-0123
TELEPHONE: 212-867-0123
INFORMATION POR SEQ ID NO: 24:
SEQURANT CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        83.2%; Score 154; DB 1; Le
llarity 96.9%; Pred. No. 2.3e-34;
Conservative 0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 24, Application US/08459871
Patent No. 5650326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 162 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                Query Match
Best Local Similarity 96.9'
Matches 157; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 157; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: nuclei
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-459-871-24
   US-08-460-327-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
US-08-459-871-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-460-327-24

Sequence 24, Application US/08460327

Patent No. 5622850

GENERAL INFORMATION:
APPLICANT: Sloma, Alan P.
APPLICANT: Outtrup, Helle
APPLICANT: Dambmann, Claus
APPLICANT: Asslyng, Dorrit
TITLE OF INVENTION: ALKALINE PROTEASE
MUMBER OF SEQUENCES: 27

CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 56228500 No. 5622850disk of No. 5622850th America, Inc.
STREET: 405 Lexington Avenue, 64th Floor
CITY: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ATTTTTTATGCTGTCCAGACTGTCCGCTGTAAAAATAAGGAATAAAGGGGGGTTGTTA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 Arccarrerrercada Andrecada Andrecanda Antraccreterica Control Contro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö.
                                                                                                                                                                                                                                                                                                                                                                                                                                              83.2%; Score 154; DB 1; Length 162; 96.9%; Pred. No. 2.3e-34; ive 0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: ISM PC Compatible

OPERATING SYSTEM: PC-DOS/NS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,327

FILING DATE: 02-DUN-1995

CLASSIFICATION: 435

PRIOR APPLICATION NUMBER: US 08/434,255

PRIOR APPLICATION NUMBER: US 08/434,255

PRIOR APPLICATION NUMBER: 34,086

REFERENCE/DOCKET NUMBER: 3764,400-US

TELEPHONE: 212-867-0123

TELEPHONE: 212-867-0123

TELEPHONE: 212-867-0123

TELEPHONE: 212-87-955

SEQUIROR CHARACTERISTICS:
RECISTRATION NUMBER: 34,086
REFERENCE/DOCKET NUMBER: 3764.400-US
TELECOMMOUTCATION NUFFER: 3764.400-US
TELEPHONE: 212-867-0123
TELEPHONE: 212-878-9655
INFORMATION FOR SEQ ID NO: 24:
SEQUENCE CHARACTERISTICS:
LENGTH: 162 base pairs
TYPE: nucleic acid
TYPE: nucleic acid
STRANDEDNESS: single
TOPCLOGY: linear
US-08-459-967-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 162 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 96.9
Matches 157; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-08-460-327-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
```

9

Length 162;

Indels

```
GENERAL INFORMATION:
APPLICANT: Bisgard-Frantzen, Henrik
APPLICANT: Borchert, Torben Vedel
APPLICANT: Borchert, Allan
APPLICANT: Thellersen, Marianne
APPLICANT: Van der Zee, Pia
APPLICANT: Van der Zee, Pia
APPLICANT: Van Ger Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           73 ATCGATTGTTTGAGAAAGAAGAAGAGCCATAAAAATACCTTGTCTTGTCATCAGACAGGGT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       133 ATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGGGGGTTGTTA 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 154; DB 1; Length 2084;
Pred. No. 3.9e-34;
0; Mismatches 5; Indels C
                                                                                                                                                        193 rrarrracrgarargraaarararrrrgraraagaaarg 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: PC_DOS/MS_DOS
SOFTWARE: Petentin Release #1.0, Version #1.30
CURRENT APPLICATION DATE:
APPLICATION NUMBER: US/08/459,610
FILING DATE: 02-UN-1995
CLASSIFICATION NUMBER: US 08/343,804
FILING APPLICATION DATA:
APPLICATION NUMBER: US 08/343,804
FILING DATE: 22-NOV-1994
ATTORNEY/AGENT INFORMATION:
NAME: LOWNEY DATE: RAZEGN
REGISTRATION NUMBER: 31,274
REFERENCE/DOCKET NUMBER: 4054.214-US
TELEEPAK: 212-867-0123
TELEEPAK: 212-867-0123
                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/08459610
Patent No. 5801043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA

ZIP: 10.174-6401

COMPUTER READABLE FORM:
MEDLIUM TYPE: FLORDY disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: PC SYSTEM: PC-DOS/MS-D
SOFTWARE: Patentin Release #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 96.9%;
Matches 157; Conservative C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 212-878-9655
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 2084 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDS
250..1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ALLANDERT: 405 TITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KBY:
LOCATION:
FEATURE:
NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
US-08-459-610-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY:
                                                                                                                                                                                                                                                                       RESULT 15
US-08-459-610-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            78
                                                                                138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
g
                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: No. 57534600 No. 5753460th America, Inc. STREET: 405 Lexington Avenue, 64th Floor CITY: New York STATE: New York ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73 ATCGATIGITIGAGAAAAAAAAAGACCATAAAATACCTIGICIGICATCAGACAGGGT 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTITITATGCTGCCCGGCTGCCCCTGTGTAAAAAATAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 154; DB 1; Length 2084; Pred. No. 3.9e-34; 0; Mismatches 5; Indels (
                                                                                                                                                                                               121 TTATTTTACTGATATGTAAATATAATTTGTATAAGAAATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:

FILLING DATE: 10-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Bisgaard-Frantzen, Henrik
APPLICANT: Bordchert, Torben Vedel
APPLICANT: Svendsen, Allan
APPLICANT: Thellersen, Marianne
APPLICANT: Van der Zee, Pia
TITLE OF INVENTION: AMYLASE VARIANTS
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION 10-OCT-1996
CLASSIFICATION 435
CLASSIFICATION 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/343,804
FILING DATE: 12-NOV-1994
ATTOMACY ADDITION:
NAME: LOWNEY DY., Karen A.
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 4054.214-1
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4054.214-US
                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/08720899
Patent No. 5753460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 212-878-9655
INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
LENGTH: 2084 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 96.9%;
Matches 157; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mat_peptide 343..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sig_peptide
250..342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
250..1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , NAME/KEY:
, LOCATION:
US-08-720-899-3
                                                                                                                      138
                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 쉱
                                      셤
                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

Gaps

Mon Mar 22 09:21:46 2004

상 임

Search completed: March 19, 2004, 03:17:58 Job time : 44 secs

ı

nucleic

on:

Run ĕ

Sequence:

Title: Perfect

Searched:

Database

Š.

1234

υ

```
AW001963 wt82d01.x

A1989386 wt80c012.x

A1697642 we15g02.x

A1697671 tm32b12.x

A1697671 tm32b12.x

B20072552 lkf46009.

AU253100 AU553101

BEG14304 601504361

BEG14304 601504361

BEG14304 601504361

BEG14304 folisod361

A119670 Tm78g03.x

BX240763 Danio rer

A12491845 Tetracdon

AL191845 Tetracdon

AL191845 Tetracdon

AL191845 Tetracdon

AL191845 Tetracdon

AL191845 Tetracdon

AL169840 Drosophil

BX426107 BX426107

BX3426107 Excepbil

BX36109 BX385059

AZ174571 ie26e12.9

CG288647 OG3BB57TH

CG288647 OG3BB57TH

CG288649 OG3BB57TH

CG288649 OG3BB57TH

CG288649 OG3BB57TH

CG288647 OG3BB57TH

CG288649 OG3BB57TH

CG288647 OG3BB57TH

CG184658 PUFKO36TB

BX419991 BX419991

BG627035 CC-esf1cL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CA819917 427 bp mRNA linear EST 09-DEC-2002 saugza05.y1 Gm-c1048 Glycine max cDNA clone SOYBEAN CLONE ID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shoemaker, R., Keim, P., Vodkin, L., Erpelding, J., Coryell, V., Shoemaker, R., Keim, P., Vodkin, L., Erpelding, J., Coryell, V., Khoemar, R., Bolla, B., Marra, M., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwod, K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Enkarycca; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Phaseoleae;
BX446359 BX446359
CC317939 TAM32-25P
AW292419 UI-H-BI2-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Shoemaker R/Public Soybean EST Project
Public Soybean BST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALIGNMENTS
                                                    BQ000230
A1697642
A1697642
B2072552
AUZ53100
AL543011
BR022530
AL64304
CNS01TL7
A1570619
BX49797
A1570619
CNS02D08
BX442065
CNS02D08
BX442065
CNS02D08
CNS02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CG184658
CG184655
BX419991
                                                                                                                                                                                                                                                                                                                                           CG288637
CG288649
                                                                                                                                                                                                                                                                                                                                                                       BX385059
                                                                                                                                                                                                                                                                                                                                                                                                                                     BI371578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BG627035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CA819917
CA819917.1 GI:26268854
EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycine max (soybean)
Glycine max
  ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
CA819917
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
    υυ
                                                                                                                                                                                                                                                                                                                                                                       υo
                                                                                                                                                                                                                                                                                                                                                                                                            υ
                                                                                                                                                                                                                                                      υU
                                                                                                                                                                                                                                                                                           υυ
                                                                                                                                                                                                                                                                                                                                                                                                                                       σσσ
      ט ט
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CA819917 sau82a05.
BX356191 BX356191
AL554700 AL554700
CE808066 tigz-gss-
                                                                                           March 19, 2004, 01:21:15; Search time 1837 Seconds (without alignments) 3007.351 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                             185
1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
                  GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                        27513289 segs, 14931090276 residues
                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                             summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA819917
BX356191
ALS54700
CE808066
                                                                    nucleic search, using sw model
                                                                                                                                                                                                 IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          H
                                                                                                                                                                                                                                                                                                                                Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                        em_esthum:
em_esthum:
em_estnu:
em_estro:
em_ltc:
em_tc:
gb_estl:
gb_estl:
gb_estl:
gb_estl:
em_estcom:
em_estcom:
em_estcom:
em_estcom:
em_estcom:
em_estcom:
em_estcom:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_ggs_vrt:,
em_ggs_hun:,
em_gss_mus:,
em_gss_prod:,
em_gss_prod:,
em_gss_vr1:,
em_gss_vr1:,
gb_gss_r.
                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                               US-09-834-271A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            em_gss_inv:*
em_gss_pln:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  114
134
134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          四
                                                                                                                                                                                                                                                                                                                                                                                                 em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  427
1201
1201
735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match
                                                                                                                                                                                                                                                                                                                                                                                      EST: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23.5
21.5
21.3
21.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  score:
                                                                                                                                                                                                    Scoring table:
```

```
Homo sapleum:

Bukaryota, Metazoa; Chordata, Craniata, Vertebrata; Buteleostomi,
Bukaryota, Metazoa; Chordata, Craniata, Vertebrata; Buteleostomi,
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

1. (Dases 1 to 1201)

Lu Unpublished (2001)

On Peb 15, 2001 this sequence version replaced gi:12895734.

Contact: Genoscope
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Emai: seqref@genoscope.ons.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Library was constructed by Life Technologies, a division of
Library was constructed by Life Technologies, a division of
Library was constructed by Life Technologies.

more information about this cluster, see
http://www.genoscope.cns.fr/
cgi-bin/cluster.cgi?seq=CSDD1085CD040P1&cluster=8225.r. Contact:
Feng Liang Email: filangalifetech.com URL:
Feng Liang Email: filangalifetech.com URL:
Location/Qualifiers
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ALSS4700 1201 bp mRNA linear EST 31-MAY-2003
ALSS4700 Homo sapiens PLACENTA COT 25-NORMALIZED Homo sapiens CDNA
clone CSODIO85YH07 5-PRIME, mRNA sequence.
ALSS4700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    952 irriririnaranakarırırı arabaanara arabaakak Kedek Kedek Kenerinin 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACATTATT 142
                                                                                                                                                                                                                                                                                                             /mol_type="mRNA"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="CSODIOPYC24"
/tiseue type="PLACENTA COT 25-NORWALIZED"
/tiseue type="PLACENTA COT 25-NORWALIZED"
/nore="lat strand cDNA was primed with a NotI-oligo (dT)
/nore="lat strand cDNA was primed with a NotI-oligo (dT)
/nore="lat strand cDNA was primed with NotI and enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized."
Library was constructed by Life Technologies, a division of Invitrogen. This sequence belongs to sequence cluster 1433.r For more information about this cluster, see thtp://www.genoscope.cns.fr/
egi-bin/cluster.cgi?seq=CSODIO09BB12QP1&cluster=1433.r. Contact :
Feng Liang Email : fliang@lifetech.com URL :
http://fulllength.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODIO09BB12QP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 TIGITITGAGAAAAAAAAGAAGACCATAAAATACCTIGICIGICATCAGACAGGGIATITI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 13; Length 1201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               143 TTACTGATATGTATATATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21.5%; Score 39.8;
45.8%; Pred. No. 6.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL554700.2 GI:31276510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 71; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
AL554700/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone lib="Gm-c1048"
/clone lib="Gm-c1048"
/note="Vector: pBluescript II SK+; Site l: EcoRI; Site 2:
Xhoi; The Clark NIL was constructed and seed was provided
by Dr. J. Specht, Interestry of Nebraska (Shoemaker and
Specht, 1995). The cDNA library was constructed from mRNA
isolated from whole seedlings of 1 week old greenhouse
grown plants. Complementary DNA was synthesized from mRNA
using a primer consisting of a poly(dl) sequence with a
Xhoi restriction site and a 3' anchor. EcoRI adapters were
ligated to the blunt-ended cDNA fragments followed by Xhoi
digestion. The cDNA fragments were directionally cloned
into the EcoRI-Xhoi restriction site of the pBluescript
vector. The ligated cDNA fragments were transformed into
DH108 host cells (GibcoBRL). The library was constructed
in cooperaction with Dr. Paul Keim's laboratory at Northern
Arizona University."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BX356191 1000 sapiens PLACENTA COT 25-NORMALIZED Homo sapiens CDNA clone CSODI009YC24 5-PRIME, mRNA sequence.
           Tel: 314 286 1800
Fax: 314 286 1810
Eaxi: 314 286 1810
Exail: est@watson.wustl.edu
This clone is available through: ResGen, Invitrogen Corp. 2130
South Memorial Parkway Huntsville, AL 35801 For further information call: (800)-533-4363 or contact: ccu@resgen.com web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                   /organism="Glycine max"
/mol_type="mRNA"
/mol_type="mRNA"
/db xref="taxen:3847"
/clone="SOYBEAN CLONE ID: Gm-c1048-2314"
/tissue_type="whole seedlings of greenhouse grown plants"
/dev_stage="lu week old"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            164 ingeciririrmaaaggaaaaaagggaaaaaaaaaaccirirririaaccrrrrraacre 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITITIATGCTGTCCAGACTGTCCGCTGTGAAAAAATAGGAATAAGGGGGGTTGACAT 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Genoscope
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: seqref@genoscope.cns.fr, Web : www.genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 14; Length 427;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      284 Tritiririaaaarririarriscaarririaaaaaarrisass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139 TATTTTACTGATATGTATATATATTTGTATAAGAAAATGGAGC 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria; Primates; Catarrhini; Hon
1 (bases 1 to 1201)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D.
Pull-length oDNA libraries and normalization
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23.5%; Score 43.4; DB
53.9%; Pred. No. 1.2;
:ive 0; Mismatches
                                                                                                                                                                             www.resgen.com
Seq primer: -40RP from Gibco
High quality sequence scop: 418.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BX356191.1 GI:30365992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local St...
89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                                                                                                                                                 Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
BX356191
                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
```

ORIGIN

g ò 셤 à d

8

ö

ઠે ద à g ઠ a

```
Contact: Genoscope,
Contact: Genoscope,
Genoscope - Centre National de Sequencage
Genoscope - Centre National de Sequencage
BP 191 91006 BVRY cedex - France
Bmail: seqrefégenoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 2980.r For
more information about this cluster, see
http://www.genoscope.cns.fr/
cgi.bin/cluster.cgi?seq-ClobA003ZG04FPl&cluster=2980.r. Contact :
Feng Liang Email: fliang@lifetech.com URL:
http://tullengh.invitrogen.com/ InVitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID: CLOBA003ZG04FPl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
| nol_type="mRNA" |
| nol_type="mRNA" |
| doline="taxon:9606" |
| fissue_type="PLACENTA" |
| fissue_type="PLACENTA" |
| clone="toctor: pCMVSPORT 6; lst strand cDNA was primed |
| note="Vector: pCMVSPORT 6; lst strand cDNA was primed with a Not1-oligo(dT) primer. Five prime end enriched, double-strand cDNA was digested with Not I and cloned into Libe Not I and EcoRV sites of the pCMVSPORT 6 vector. Library was not normalized."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CC317939 1304 bp DNA linear GSS 14-MAY-2003 TAM32-25P7_EC1.1 TAM32 Gallus gallus genomic clone TAM32-25P7,
                                                                                                                                                                                                                                  BX446359 1000 sapiens PLACENTA Homo sapiens cDNA clone CLOBA0032C04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         964 CACWGAAAACGAIGGKIIIGIGCCCIGIGGCGWYIKIIITIICIGKGRADAAAAAAAAA 905
90 GICCAGACTGICCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACATTATTTTACTGA 149
                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.

1 (bases 1 to 1201)

11, W.B., Gruber, C., Jessee, J. and Polayes, D.
Full-length cDNA libraries and normalization
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5 TTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGACCATAAAAATACCTTGTCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAATAGGAATAA
                                      852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 1201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20.9%; Score 38.6; DB 13;
ilarity 39.9%; Pred. No. 14;
Conservative 27; Mismatches 77;
                                                                                                                           135 GTTTATTTATTTAGACCAAGAGAAGGAGG 168
                                                                                    150 TATGTATATATATTTGTATAAGAAATGGAGC
                                                                                                                                                                                                                                                                           3-PRIME, mRNA sequence.
BX446359
BX446359.1 GI:31023719
                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                            Ното варіепв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 69; Conserv
                                                                                                                                                                                                                                                                                                                                                EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
CC317939/c
LOCUS
DEFINITION
                                                                                                                                                                                           KESULT 5
BX446359/c
                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                              KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                           셤
                                                                                    ઠે
                                                                                                                         g
    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LEGUEU66 735 bp DNA linear GSS 30-SEP-2003 tigr-gese-dog-17000317853400 Dog Library Canis familiaris genomic, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Kirkness EF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
Tel: 301-838-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                         ö
/clone="CSODIO85YH07"
/tissue type="PLACENTA COT 25-NORWALIZED"
/clone_lib="Homo sapiens PLACENTA COT 25-NORWALIZED"
/note="lib="Homo sapiens PLACENTA COT 25-NORWALIZED"
/note="list strand cDNA was primed with a NotI-oligo(dT)
primer. Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and EORR V
sites of the pCWNSPORT 6 vector. Library was normalized."
                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Carnivora; Fissipedia; Canidae; Canis.
I (bases 1 to 735)
Xirkness,E.F., Bafna,V., Halpern,A.L., Levy,S., Remington,K.,
Rusch,D.B., Delcher,A.L., Pop,M., Wang,W., Fraser,C.M. and
Venter,J.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74
                                                                                                                                                                                                                                                                                  <u>acaaaaacaaaaaaaaaaaaaaaarurccidirririccicrrrrrrrrrrrrriririrrrrr</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Canis familiaris"
/mol_type="genomic DNA"
/strain="Standard Poodle"
/db_xref="taxon:9615"
/clone=Tibe="Dog Library"
/note==Tibe !. BexxI; Libraries were prepared from peripheral blood"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The dog genome: survey sequencing and comparative analysis Science 301 (5641), 1898-1903 (2003) 22875432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 735;
                                                                                                                                                                                           21.3%; Score 39.4; DB 9; Length 1201; llarity 39.3%; Pred. No. 8.7; Conservative 32; Mismatches 59; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 38.8; DB 29;
Pred. No. 14;
0; Mismatches 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          137 ATTATTTTACTGATATGTATATATTT 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                890 NTTTTTTTTTTTTTATGATACACTT 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fax: 301-838-0208
Email: ekirknes@tigr.org
Class: shotgun.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CE808066.1 GI:37149050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Canis familiaris (dog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21.0%;
53.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 Similarity 53.2
82; Conservative
                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CE808066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14512627
                                                                                                                                                                                                                                       59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 82
                                                                                                                                                                                              Query Match
Best Local S:
Matches 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CE808066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                       ORIGIN
```

ö

965 124

> g ઠે

```
AW001963 461 bp mRNA linear EST 09-MAR-2000 wt82d01.x1 Soares thymus NHFTh Homo sapiens cDNA clone IMAGE:2513953 3', mRNA sequence.
tail. cDNA Library Preparation: M.B. Soares Lab Clone distribution: NCT-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: www.bio.llnl.gov/bbrp/image/image.html The following repetitive elements were found in this cDNA sequence: 1-30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       111 AAAAATAGGAATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTAT 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 20.3%; Score 37.6; DB 10; Length 392; Best Local Similarity 72.1%; Pred. No. 33; Matches 49; Conservative 0; Mismatches 19; Indels 0;
                                                                                                                                                                                       /organism="Homo sapiens"
                                                                                                                                                  location/Qualifiers
                                                                                            >AT_rich#Low_complexity
Seq_primer: M13 Forward
POLYA=Yes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  253 AAGAAAAT 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 8
AW001963
                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               392 bp mRNA linear EST 16-JAN-2000
UI-H-BIZ-agw-h-08-0-UI.81 NCI_CGAP_Sub4 Homo sapiens cDNA clone
AW292419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1101 TCTGGAGAATAAAGAATATAGGGGTAGGGGAGTATTTGTCGGATAGGTATAAAATGATTT 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           107 TGTAAAAATAGGAATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTT 166
                                                                         dailus gallus (chicken)
Gallus gallus
Gallus gallus
Gallus gallus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae;
Gallus.

1 (bases 1 to 1104)
Kremitzki, C., Higginbotham, J., Wylie, K., Carter, J., McPherson, J.,
Gallus gallus BAC End Reads
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryofa, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumor Gene Index (Unpublished (1997) (1997) (Solution of the property of the sequence contained an oligo-dr track that was present in the squence contained an oligo-dr track that was present in the oligomucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonafide poly A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /sex="female"
/cell line="UCD001, inbred 256"
/clone lib="TAM32"
/note="Vector: pECBAC1; Site_1: ECORI; Site_2: ECORI;
/AM32 Female Chicken library - for library and clone ordering information: http://www.hbz.tamu.edu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20.9%; Score 38.6; DB 28; Length 1304; 68.8%; Pred. No. 13; ive 0; Mismatches 24; Indels 0;
                                                                                                                                                                                                                                                                          Genome Sequencing Center
Mashington University School of Medicine
Email: submissions@watson.wustl.edu
Insert Length: 152000 Std Error: 0.00
Seq primer: ECI TACGACTCACTATAGGGCG
Class: BAC ends
High quality sequence start: 51
High quality sequence stop: 755.
Coation/Qualifiers
Coation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Gallus gallus"
/mol_type="genomic DNA"
/srrain="Red Jungle Fowl"
/db xref="taxon:9031"
/clone="TAM32-25P7"
                                                                                                                                                                                                                                                                 Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1041 GTGAAAAAAGIGGTGC 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167 GTATAAGAAATGGAGC 183
                                         CC317939.1 GI:30711997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AW292419.1 GI:6699055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                   ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                       TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 7
AW292419
                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
```

à d ò

```
Ното варіеля
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
AI989386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               // Organisms and control of the services of the modified privity vector. Library went through one round of normalization. Library constructed by Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BQ000230
UI-H-DIO-avp-j-04-0-UI.s1 NCI_CGAP_DIO Homo sapiens cDNA clone
IMAGE:5882595 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        111 AAAAATAGGAATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTAT 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      176 AAAGAGAGGAAACTAAGGTTGTCATTAAATGACAGATAAGTAAAAAATAATTGCTTT 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 4462)
NCI-GGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                          Homo sapiens
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 461)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                             Tumor Gene Index
Unpublished (1997)
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Insert Length: 696 Std Brror: 0.00
Seq primer: -40UP from Gibco
High quality sequence stop: 448.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20.3%; Score 37.6; DB 9; Length 461; larity 72.1%; Pred. No. 31; Conservative 0; Mismatches 19; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jose Mercuende
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ000230.1 GI:19725130
  AW001963
AW001963.1 GI:5848879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
Homo sapiens
                                                                    Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       236 AAGAAAAT 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BQ000230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ000230/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
| 1...40.2|
| June | Lype="mRNA" |
| mol_type="mRNA" |
| dev_state="txxon:9606" |
| clone="txpe="Lung Focal Fibrosis" |
| dev_stage="MAGNIL" |
| dev_stage="MAGNIL" |
| dev_stage="Lung Focal Fibrosis" |
| clone="lorgan: Lung; Vector: pr773-Pac (Pharmacia) with a modified pollylinker; Site 1: EcoR I; Site 2: Not I; Not CGAP_DIO |
| NoT_CGAP_DIO is a CoDNA library containing the following tissue(s): A pool of Lung Focal Fibrosis. The library was constructed according to Bonaldo, Lemno and Soares, Genome Research, 6:791-806, 1996. First strand cDNA synthesis was primed with an oligo-dT primer containing a Not I site. Dobule stranded cDNA was ligated to an EcoR I adaptor, digested with Not I, and cloned directionally into pr773-Pac vector. The oligomuclectide used to prime the synthesis of first-strand cDNA contains a library tag sequence that is located between the Not I site and the (dT):8 tail. The sequence tag for this library is ATAGCGGTC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      467 bp mRNA linear EST 08-SEB-1999 wt80612.x1 Soares thymus NHFTh Homo sapiens cDNA clone IMAGE: 2513806 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA Library preparation: Dr. M. Bento Soares, University of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov The following repetitive elements were found in this CDNA Seq primer: M13 FORWARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. I Chase I to 46. NOT-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NOT-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumor Gene Index (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
Seg primer: -400F from Gibco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 20.3%; Score 37.6; DB 12; Best Local Similarity 72.1%; Pred. No. 31; Matches 49; Conservative 0; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAG_TISSUE=lung with fibrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAG_LIB=UI-H-DIO
TAG_SEQ=ATACGCGGTC"
                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A1989386.1 GI:5836309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                 .462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          210 AAGAAAAT 203
```

Gaps . 0

```
Contact: Robert Strausberg, Ph.D.

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Ash Alizadeh, John Byrd, M.D., Mike Grever,
Tissue Procurement: Ash Alizadeh, John Byrd, M.D., M.D., Du.D.

M.D., Louis M. Staudt, M.D., Ph.D.

CDNA Library Preparation: M. Banto Soares, Ph.D.

CDNA Library Preparation: M. Banto Soares, Ph.D.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Stauching by: Mashington Universalty Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.E. Conscrtium/LLNL at:

Insert Length: 885 Std Error: 0.00
Seq primer: -40UP from Gibco
High quality sequence stop: 446.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="NCI_CGAP_LU24" http://clone_lib="NCI_CGAP_LU24" http://cctor...plasmid_lu34" http://cctor...plasmid_lu34. http://cco.lu34. http://cc.lu34. http:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A1479617 564 bp mRNA linear EST 14-APR-1999 tm32b12.x1 NCI_CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2158271 3',
                                                                                                                                                                                                                                                                                                                                                                                                                                                 111 AAAAATAGGAATAAAGGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTAT 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. I Chasea: Lo Se4, NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9; Length 475;
                                                                                                                                                                                                                                                                                                                                        Score 37.6; DB 9; Length 4 Pred. No. 31; 0; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A1479617
A1479617.1 GI:4372785
                                                                                                                                                                                                                                                                                                                                           20.3%;
ilarity 72.1%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAAAAT 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Simil
Matches 49; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
AI479617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contect: Robert Strausberg, Ph.D.

Contect: Robert Strausberg, Ph.D.

Email: Ggapbs-r@mail.nih.gov

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.

Emmert-Buck, M.D., Ph.D.

CDNA Library Preparation: M. Bento Soares, Ph.D.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Clone distribution: NCT-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

www-bio.llnl.gov/bbrp/image/Amage.html
Insert Length: 701 Std Error: 0.00

Seq primer: -40UP from Gibco

High quality sequence stop: 465.
                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo. 1 (Dasea 1 to 475)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9; Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 20.3%; Score 37.6; DB 9; Length 4:
Best Local Similarity 72.1%; Pred. No. 31;
Matches 49; Conservative 0; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="IMAGE:2341202"
/tissue_type="carcinoid"
/lab_host="DH10B"
                                                                                                        'organism="Homo sapiens"
                                                                                                                                /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:2513806"
                    High quality sequence stop: 442.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AI697642.1 GI:4985542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          236 AAGAAAAT 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
AI697642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
```

gg à

ਨੇ g

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 70)

Ohira,M., Morohashi,A., Inuzuka,H., Shishikura,T., Kawamoto,T., Kageyama,H., Nakamura,Y., Isogai,E., Takayasu,H., Sakiyama,S., Suzuki,Y., Sugano,S., Goto,T., Sato,S. and Nakagwara,A.

Expression profiling and characterization of 4200 genes cloned from primary neuroblastomas identification of 305 genes differentially expressed between favorable and unfavorable subsets
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               894 bp mRNA linear EST 12-MAY-2003
AL543011 Homo sapiens PLACENTA Homo sapiens cDNA clone CS0DE013YL22
5-FRIME, mRNA sequence.
                                      ארבכבאני (ארבר באים 100 pp mRNA linear EST 27-AUG-2003 AU253100 human favorable neuroblastoma cDNA Homo Bapiens cDNA clone Nb1a03504 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata, Craniata, Vertebrata, Euteleostomi,
Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                111 AAAAATAGGAATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             163 AAAGAGAGGAAGGAACTAAGGTTGTCATTAAATGACAGATAAGTÁAAAAATAATTGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chiba Cancer Center Research Institute
Chiba Cancer Center Research Institute
666-2 Nitona, Chuol-ku, Chiba 260-8717, Japan
Tel: 81-43-264-54459
Fax: 81-43-265-4459
Email: akiranak@chiba-ccri.chuo.chiba.jp.
Location/Qualifiers
1. 700
/organism="Homo sapiens"
/mol type="maxNa"
/db_xref="taxon:9606"
/clone="Nphe="maxNa"
/tissue type="meuroblastoma"
/tissue type="meuroblastoma"
/clone_lib="human favorable neuroblastoma cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryogia, Metazoa, Chordata, Craniata, Vertebrata; Buteleo Mamalia; Butheria; Primates; Catarrhini; Hominidae; Homo. 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 1 (2018) 2 (2018) 1 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2 (2018) 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 700;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.3%; Score 37.6; L
llarity 72.1%; Pred. No. 28;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Akira Nakagawara
Division of Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL543011.2 GI:30548727
EST.
                                                                                                                                                                                               AU253100.1 GI:34321813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                        sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      223 AAGAAAT 230
                                                                                                                                                                                                                                                        Homo sapiens
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171 AAGAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12934113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                   RESULT 14
AU253100
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15
AL543011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B2072552 699 bp DNA linear GSS 10-OCT-2002
lkf46b09.b1 B.oleracea002 Brassica oleracea genomic, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="genomic DNA"
/mol_type="genomic DNA"
/db zref="taxon:3712"
/clone lib="B.oleracea002"
/note="vector: pOTw13; Whole genome shotgun library from fnote="vector: pOTw13; Whole genome shotgun library from prep using Brassica oleracea TO1000DH3 buds provided by Thosmas Osborn at the University of Wisconsin, Genomic DNA was provided by Pablo Rabinowicz (CSHL) and the shotgun library prepared at Washington University Genome Sequencing Center."
                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Brassica oleracea
Brassica oleracea
Eukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Bukaryota, Viridiplantae, Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
I (bases I to 699)
Delehaunty, K., Fewell, G., Fulton, L., McCombie, W.R., Miner, T.,
Nash, W., Rabinowicz, P.D. and Wilson, R.K.
Umpublished (2002)
Contact: Richard K. Wilson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             388 irahirarichcahdahrchagarirrirragahahcrdagdaharaccardirargicar 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82 TITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACATTAT 141
                                                                                                                                                                        170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 111 AAAAATAGGAATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATATTTGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20.3%; Score 37.6; DB 28; Length 699; llarity 52.6%; Pred. No. 28; Conservative 0; Mismatches 74; Indels 0;
                                                      Length 564;
                                                                                                            19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITACTGATATGTATATATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      448 ritaraaigaairiaagarraragargrarracaa 483
                                               Score 37.6; DB 9;
Pred. No. 29;
0; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genome Sequencing Center
Washington University School of Medicine
mail: submissions@watson.wustl.edu
Plate: lKf46 row: b column: 09
Seq primer: -21UPpOT forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Brassica oleracea"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Seg primer: -21UPpOT forward
Class: shotgun
High quality sequence start: 17
High quality sequence stop: 551.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence.
BZ072552
BZ072552.1 GI:23690695
                                               20.3%;
                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                              171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                    233 AAGAAAAT 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 82; Conserv
                                                  Query Match
Best Local Similarity
                                                                                                            49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
COMMENT
                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 13
BZ072552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
ORIGIN
```

g

d

ઠે

쉱

à

ö

us-09-834-271a-27.rst

```
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/dolone="CSODE013YL22"
/tissue_type="PLACENYA"
/clone="Labe" papiens PLACENTA"
/clone="Labe" papiens PLACENTA"
/clone="Labe" papiens PLACENTA"
/note="Vector: pCMVSPORT 6; lst strand cDNA was primed
/note="Vector: pCMVSPORT 6; lst strand cDNA was primed
/with a Not1-oligo(dT) primer. Five prime end enriched,
double-strand cDNA was digested with Not I and cloned into
the Not I and ECCRV sites of the pCMVSPORT 6 vector.
Library was not normalized."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30 AGAAAAGAAGAAGACCATAAAAATACCTTGTCTGTCATCAGACAGGGTATTTTTATGCT 89
Email: seqref@genoscope.cns.fr, Web : www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 9876.f For
more information about this cluster, see
http://www.genoscope.cns.fr/
cgi-bin/cluster.cgi?seq-CSODE013DF11QP1&cluster=9876.f. Contact :
Feng Liang Email : fliangalifetech.com UNL :
http://fulllength.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODE013DF11QP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match

20.2%; Score 37.4; DB 9; Length 894;

Best Local Similarity 42.3%; Pred. No. 29;

Matches 63; Conservative 22; Mismatches 64; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              150 TATGTATATATATTTGTATAAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               768 TTTATATWTAAKAAAAAAAAAAAAAAA 796
                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

Search completed: March 19, 2004, 03:16:13 Job time : 1838 secs

```
-09-834-271A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-834-271A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence 6, Appli
Sequence 26, Appli
Sequence 27, Appli
Sequence 17, Appli
Sequence 17, Appli
Sequence 18, Appli
Sequence 18, Appli
Sequence 20, Appli
Sequence 20, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 5, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 27, App
                                                                                             March 19, 2004, 02:14:41; Search time 745.5 Seconds (without alignments) 917.966 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Published Applications NA: 4

1: /cgn2_6/prodata/l/pubpna/US07_PUBCOMB.seq: *

2: /cgn2_6/prodata/l/pubpna/US06_NEW_PUB.seq: *

3: /cgn2_6/prodata/l/pubpna/US06_NEW_PUB.seq: *

4: /cgn2_6/prodata/l/pubpna/US06_NEW_PUB.seq: *

6: /cgn2_6/prodata/l/pubpna/US08_NEW_PUB.seq: *

6: /cgn2_6/prodata/l/pubpna/US08_NEW_PUB.seq: *

7: /cgn2_6/prodata/l/pubpna/US08_PUBCOMB.seq: *

8: /cgn2_6/prodata/l/pubpna/US08_PUBCOMB.seq: *

9: /cgn2_6/prodata/l/pubpna/US08_PUBCOMB.seq: *

10: /cgn2_6/prodata/l/pubpna/US09_PUBCOMB.seq: *

11: /cgn2_6/prodata/l/pubpna/US09_PUBCOMB.seq: *

12: /cgn2_6/prodata/l/pubpna/US09_PUBCOMB.seq: *

13: /cgn2_6/prodata/l/pubpna/US09_PUBCOMB.seq: *

14: /cgn2_6/prodata/l/pubpna/US00_PUBCOMB.seq: *

15: /cgn2_6/prodata/l/pubpna/US10B_PUBCOMB.seq: *

16: /cgn2_6/prodata/l/pubpna/US10B_PUBCOMB.seq: *

16: /cgn2_6/prodata/l/pubpna/US10B_PUBCOMB.seq: *

17: /cgn2_6/prodata/l/pubpna/US10B_PUBCOMB.seq: *

18: /cgn2_6/prodata/l/pubpna/US10B_PUBCOMB.seq: *

18: /cgn2_6/prodata/l/pubpna/US60_PUBCOMB.seq: *

18: /cgn2_6/prodata/l/pubpna/US60_PUBCOMB.seq: *

18: /cgn2_6/prodata/l/pubpna/US60_PUBCOMB.seq: *
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-834-271A-27
US-10-406-025-6
US-10-406-025-6
US-10-406-025-5
US-09-834-271A-25
US-10-344-231-17
US-10-343-332A-17
US-10-343-231-18
US-10-343-231-18
US-10-363-332A-18
US-10-363-332A-18
US-10-363-332A-18
US-10-363-332A-20
US-10-363-332A-20
US-10-369-864-58
US-09-769-864-58
                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                             2438257 seqs, 1849576744 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                 - nucleic search, using sw model
                                                                                                                                                                                                                               IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 200000000
                                                                                                                                                            US-09-834-271A-27
185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                Minimum DB R
                                                                 OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                  Searched:
                                                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                  Title:
```

ຄັ	equence 9	a)	ניו	a)	equence 3	Sequence 60, Appl	Sequence 49, Appl	-	Sequence 9, Appli	•	-	ø	ö	7	0	equence 14593	equence 389,	equence 577,	equence 198,	۹,	e 1,	15549	470,	52,	999	equence 399,	9 47,	equence 1861	Seguence 18616, A
09-918-543-	US-09-925-576C	US-10-665-667-5	10-	US-10-184-7	US-10-186-042	ns	US-09-928-847	-09-834-271A	US-09-834-271	.0 US-09-834-271A-10	US-10-	3-10-312-841-	US-09-070	US-09-783-590-78	5 US-10-027-632-157	27-632-14	221	4 US-10-311-455-57	4 US-10-311-455-1	4 US-10-240	4 US-10-312-841	2 US-10-282-122A	2 US-10-221-714A-47	4 US-10-172-086-5	US-09-764-887-3	4 US-10-073-961-3	2 US-10-235-192A-4	-10-085-783A-186	5 US-10-242-535A-1861
2084 9				2084 1	084 1	222 1	837 1	44 1	-	43 1	141	3778	121	179 9	512 1	827 1	380 1	155 1	924	924 1	3778	286 1	147	147	58	588	328	510 1	01
Ñ	Ċ١	Ŕ	Ñ	Ñ	N	13	v				(1)	367	6				19	11	マ	4,	•	N	14	4,	28	28	182		
83.2	83.2		•	83.2	ω.		œ	ش	21.1	20.8	0	19.7	19.4	19.2		19.0	19.0	18.9	18.9	18.9	18.8		18.7	œ	18.6		18.6	18,4	18.4
'n		'n	TU.	154	LO	ص		4	39		7	9	'n.	n.	35.2	'n	'n	ന	35	35	•	4.		4	4	4		3.4	
16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	34	32	36	37		9			42	43	44	45
										U	U														O	υ		υ	υ

ALIGNMENTS

```
1 GGCCTTAAGGGCCTCCAATCGATTGTTTGAGAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
Sequence Sequence (1977) Application US/09834271A (1980) Sequence (1977) Application No. US20030170876A1 (1980) Sequence (1977) Application No. US20030170876A1 (1980) Sequence (1977) Sequenc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
100.0%; Score 185; DB 10;
Best Local Similarity 100.0%; Pred. No. 1.1e-41;
Matches 185; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ô

120

```
ö
                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                       121 ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                         9
                                                                                                                                     9
                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 decernaadeecenecaareearrerreadaaaaacaacaacaraaaaaracerrer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 crercarcadacadedrarrrrrardecrercedacrercecrereraraaaadea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGAACCATAAAAATACCTTGT
                                                                                                                                                                      1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                  ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99.1%; Score 183.4; DB 14; Length 185; 99.5%; Pred. No. 2.9e-41; ive 0; Mismatches 1; Indels 0;
                                                                  Length 185;
                                                                                                     1; Indels
                                                                    10;
                                                                  Query Match 99.1%; Score 183.4; DB 10
Best Local Similarity 99.5%; Pred. No. 2.9e-41;
Matches 184; Conservative 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-09-834-271A-25
Sequence 25, Application US/09834271A
; Publication No. US20030170876A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                  181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                 181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA ORGANISM: Bacillus
                  ; ORGANISM: Bacillus
US-09-834-271A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-406-025-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                    g
                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                      Sequence 6, Application US/10406025
Sequence 6, Application US/10406025
Publication No. US20030186380A1
GENERAL INFORMATION:
SIORA, ALAN
APPLICANT: No. US20030186380Alozymes Biotech, Inc.
APPLICANT: Sloma, Alan
ITILE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase
TILE OF INVENTION: activity
FILE REPERENCE: 10289.200-US
CURRENT APPLICATION NUMBER: US/10/406,025
CURRENT FILING DATE: 2003-04-01
PRICA PAPLICATION NUMBER: US 60/369,192
PRICA PLICATION NUMBER: US 60/369,192
PRICA PLICATION NUMBER: US 60/369,192
PRICA PLICATION NUMBER: US 60/369,192
SPRICA PLICATION NUMBER: US 60/369,192
PRICA PLICATION NUMBER: US 60/369,192
SPRICA PLICATION NUMBER: US 60/369,192
PRICA PLICATION NUMBER: US 60/369,192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 crercarcadadadegerarrirranecrercadacrercecrereradadadada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NESULT 3

US-09-834-271A-26

Sequence 26, Application US/09834271A

Sequence 26, Application US/09834271A

Sequence 26, Application No. US20030170876A1

GENERAL INFORMATION:

APPLICANT: Adner. William

APPLICANT: Sloma, Alan

APPLICANT: Thomas, Michael D.

TITLE OF INVENTION: Becillus Cell

TITLE OF INVENTION: Becillus Cell

TITLE OF INVENTION: Becillus Cell

CURRENT APPLICATION NUMBER: US/09/834,271A

CURRENT PILING DATE: 1999-02-26

PRIOR FILING DATE: BARLIER FILLING DATE: 1998-02-26

NUMBER OF SEQ ID NOS: 33

SOFTWARE: FREASEQ for Windows Version 3.0

SENGTH. 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 100.0%; Score 185; DB 14; Length 185; Best Local Similarity 100.0%; Pred. No. 1.1e-41; Matches 185; Conservative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                     ; SEQ ID NO 6
; LENGTH: 185
; TYPE: DNA
; ORGANISM: Bacillus
US-10-406-025-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 AGCTC 185
                                                       181 AGCTC 185
                                                                                        181 AGCTC 185
                                                                                                                                          RESULT 2
US-10-406-025-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                        윱
                                                         ò
                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

```
232 geeratitititatgerereceagaererereceererataaaaraagaaraaageerer 291
              61 CTGTCATCACACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                US-10-344-231-17

US-10-344-231-17

Sequence 17, Application US/10344231

Publication No. US20040038845A1

SEQUENCE 17, APPLICANT: Pedersen, Poul

APPLICANT: Roggen, Erwin Ludo

TITLE OF INVENTION: Improved production of proteases with inhibitors

FILE REFERENCE: 10064.204.US

CURRENT APPLICATION NUMBER: US/10/344,231

CURRENT FILING DATE: 2003-02-10

NUMBER OF SEQ ID NOS: 20

SOFTWARE: Patentin version 3.2

SEQ ID NO 17

LENGTH: 2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                134 GACATTATTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTATTATTTTACTGATATGTAAATATATATTTGTATAGAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85.4%; Score 158; DB 12;
ilarity 97.0%; Pred. No. 8.4e-34;
Conservative 0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85.4%; Score 158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         j OTHER INFORMATION: Construct A
US-10-363-332A-17
                                                                   121 ATAAAGGGGGGTTGACATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) OTHER INFORMATION: Synthetic US-10-344-231-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Artificial FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best_Local Similarity
Matches 161; Conserv
                                                                                                                                  181 AGCTC 185
                                                                                                                                                                 181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                              유
                                                                                            g
                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ठ
                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7, Application US/10406025
Publication No. US20030186380A1
GENERAL INFORMATION:
APPLICANT: Thomas, Thomas, Michael D.
APPLICANT: Sloma, Alan
TITLE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase
TITLE OF INVENTION: Activity
FILE REFERENCE: 10289.200-US
CURRENT APPLICATION NUMBER: US/10/406,025
CURRENT FILING DATE: 2003-04-01
PRIOR FILING DATE: 2002-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CTGTCAGCAGAGAGAGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 crorcarcadadadadarririrardengreckadengreedengrahahahahahan 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 decerraadedecerecaaredarrerricadaaaaadaadadacaraaaaracerrer 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 GGCCTTAAAGGGCCTGCAATCGATTGTTTGAGAAAAAGAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
          APPLICANT: Widner, William
APPLICANT: Sloma, Alan
APPLICANT: Thomas, Alan
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Methods For Producing A polypeptide In a
TITLE OF INVENTION: Bacillus Cell
FILE REFERENCE: 5455.200-US
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US/09/258,377
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 09/031,442
PRIOR PLING DATE: 1999-02-26
PRIOR PLING DATE: BALLER FILING DATE: 1998-02-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 14; Length 185;
                                                                                                                                                                                                                                                                                                                                                             DB 10; Length 185;
                                                                                                                                                                                                                                                                                                                                                           Score 180.2; DB 10; Length
Pred. No. 2.3e-40;
0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 180.2; D
Pred. No. 2.3e-
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 98.4%;
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 98.4%;
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                              TYPE: DNA ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                              US-09-834-271A-25
                                                                                                                                                                                                                                                           SEQ ID NO 25
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-406-025-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-406-025-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

```
US-10-363-332A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                  a
                                                                                                                                                                                                                                           셤
                                                                                                                                 ઠ
                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 18, Application US/10363332A
Publication No. US20040038375A1
Publication No. US20040038375A1
APPLICANT: Pecfersen, Poul
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
FILE REFERENCE: 100. US20040038375A1regaard-Madsen, Mads
FILE REFERENCE: 10080.204-US
CURRENT APPLICATION NUMBER: US/10/363,332A
CURRENT FILING DATE: 2003-05-27
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74 GGGTATTTTTTTTTGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAAATAAAGGGGGGGTT 133
                                                                                                            232 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGGGGGTT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172 recrarcearrerrereagaagaagaagaccaraaaaraccrrerererereagaca 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232 gegtatitititangcnenccagacnencecnengrahaaanaaaanaaggaanaaggegeti 291
                                                                           73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAAGGGGGGGTT
                                                                         Gaps
                                     Gaps
                                                                                                                                                                                                                                                                                                                                                          Sequence 18, Application US/10344231
Publication No. US20040038845A1
GENERAL INFORMATION:
APPLICANT: Redersen, Poul
APPLICANT: Regen, Erwin Ludo
TITLE OF INVENTION: Improved production of proteases with inhibitors
FILE REPRESENTS: 10064-1204-US
CURRENT APPLICANT: 2003-02-10
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
SEQ ID NO 18
LENGTH: 2267
                                   ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134 GACATTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292 Grīvaritaritinacidarararararararariticinararararid 337
                                                                                                                                                                                                                                 134 GACATTATTTTACTGATATGTATATATATTTGTATAAAAATG 179
                                                                                                                                                                                                                                                                  292 GTTATTATTTACTGATATGTAAATATATTTGTATAAGAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5; Indels
                                     Indela
Pred. No. 8.4e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 158; DB 12;
Pred. No. 8.5e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 97.0%;
Matches 161; Conservative
                  97.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ) OTHER INFORMATION: Synthetic US-10-344-231-18
                  Best Local Similarity 97.0
Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Artificial
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-363-332A-18
                                                                                                                                                                                                                                                                                                                                 RESULT 9
US-10-344-231-18
                                                                                                                                                      à
                                                                                                                                                                                         ď
                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                             à
                                                                                                              g
                                                                                                                                                                                                                               \delta
```

```
74 GGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGAATAAAGGGGGGTT 133
                                                                                                                         231
                                                                                                                                                                74 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGAATAAAGGGGGGTT 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        291
                                                                                                                                                                                                      73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 232 gegrafitititatecterereceaeactereceerereraaaaraaeeaaataaaeeeeeerr
                                                                                                                    Gaps
                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                       US-10-344-231-20
Sequence 20, Application US/10344231
Sequence 20, Application US/10344231
Sequence 20, Application US/000038845A1
Septication No. US20040038845A1
SETIMATE PROSPER, Fawin Ludo
TITLE OF INVENTION: Improved production of proteases with inhibitors
CURRENT APPLICANT: 10064.204-US
CURRENT APPLICATION NUMBER: US/10/344,231
CURRENT FILING DATE: 2003-02-10
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                         ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2588;
  Length 2267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              drrarrarracrdarardraaararaarracraraadaaaard 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACATTAITTIACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                     292 GTTATTATTTTACTGATATGTAAATATATTTGTATAAGAAAATG 337
                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                  134 GACATTATTTTACTGATATGTATATATATTTGTATAAGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14 TGCAATCGATTGTTTGAGAAAGAAGAGAGACCATAAAAATACCTTGT
Score 158; DB 12;
Pred. No. 8.5e-34;
0; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85.4%; Score 158; DB 12
97.0%; Pred. No. 9e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-10-363-333-22A-20
Sequence 20, Application US/10363332A
Publication No. US20040038375A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: misc_feature;
! LOCATION: (2084)..(2084);
! OTHER INFORMATION: n is a, c, g,
US-10-344-231-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ຫ້
    85.4%;
97.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ญั
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc feature
LOCATION: (2070)..(2070)
OTHER INFORMATION: n is a,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 97.0
Matches 161; Conservative
      Query Match
Best Local Similarity 97.0
Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE: misc feature LOCATION: (2077)..(2077) OTHER INFORMATION: n is
```

```
DB 14; Length 2604;
                 Score 157.2; DB 1
Pred. No. 1.5e-33;
0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Borchert, Torben V.
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Andersen, Carsten
APPLICANT: Mielsen, Bjarne
APPLICANT: Nielsen, Bjarne
APPLICANT: Nielsen, Torben L.
APPLICANT: Kjaerulff, Soren
TITLE REPREBNCE: 5368,200-US
CURRENT FILING DATE: 2001-01-25
PRIOR APPLICATION NUMBER: US/09/769,864
CURRENT FILING DATE: 1998-10-30
NUMBER OF SEQ ID NOS: 58
SOFTWARE: PSESEG for Windows Version 3.0
SSENGTHARE: PSESEG for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
CRGANISM: Bacillus amyloliquefaciens
FRATURE:
NAME/KEY: CDS
LOCATION: (343)...(1794)
US-09-769-864-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 58, Application US/09769864
Patent No. US20010039253A1
GENERAL INFORMATION:
                     Query Match
Best Local Similarity 98.1%;
Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-854-346-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                          ò
                            APPLICANT: Pedersen Poul
APPLICANT: No. US20040038375Alregaard-Madsen, Mads
APPLICANT: No. US20040038375Alregaard-Madsen, Mads
TITLE OF INVENTON: Method For Screening Highly Active Proteases and Inhibitors
FILE REFERENCE: 10080.204-US
CURRENT APPLICANTON NUMBER: US/10/363,332A
CURRENT FILING DATE: 2003-05-27
NUMBER OF SEQ ID NOS: 20
SEQ ID NO 20
LENGTH: 2588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172 recaarcearrerreagaaaaaaaaaaaaccaraaaaaraccrrercercarcaaca 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 TGCAATCGATTGTTTGAGAAAAAAAAAAAAAACCATAAAAATACCTTGTCATCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12; Length 2588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   134 GACATTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 97.0%; Pred. No. 9e-34;
Matches 161; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DESIGNATION OF USCOSOO44954A1

SEQUENCE 5, APPLICATION US/10146327

PUBLICANT: ANGERSEN, Carsten
APPLICANT: JOCSENSEN, Christel T.
APPLICANT: JOCSENSEN, Christel T.
APPLICANT: Bisgard-Frantzen, Henrik
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Karnican, Henrik
APPLICANT: Karnican, Henrik
APPLICANT: Karnican, Allan
APPLICANT: Karnican, Allan
APPLICANT: Karnican, Allan
APPLICANT: APPLICATION WUMBER: US/10/146,327
CURRENT FILING DATE: 2002-05-15
PRIOR FILING DATE: 1999-03-30
PRIOR FILING DATE: 1999-03-30
PRIOR FILING DATE: 1999-03-30
PRIOR FILING DATE: 1999-03-30
PRIOR FILING DATE: 1999-04-01
NUMBER OF SEQ ID NOS: 40
SEQ ID NOS SEQ ID NOS: 40
SEQ ID NOS SEQ ID NOS: 120
SEQ ID NOS SEQ ID NOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: misc_feature

| DOCATION: (2084) .. (2084)

| OTHER INFORMATION: n is a, c, g, or t

US-10-363-332A-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: DNA
; ORGANISM: Bacillus amyloliquefaciens
US-10-146-327-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc feature
LOCATION: (2070)..(2070)
OTHER INFORMATION: n is a,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: misc feature
LOCATION: (2077)..(2077)
OTHER INFORMATION: n is a,
                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Artificial
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          652
                                                                                                                 78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gequence 9, Application US/09854346
Patent No. US20020068352A1
APPLICANT: No. US20020068352A10zymes A/S
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Christel Thea
APPLICANT: Nielsen, Bjarne Ronfeldt
TITLE OF INVENTION: Alpha-amylase variants with altered 1,6 activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 2084;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ouery Match
83.2%; Score 154; DB 9; Length 20
Best Local Similarity 96.9%; Pred. No. 1.1e-32;
Matches 157; Conservative 0; Mismatches 5; Indels
Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138 TTATTTACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTATTTTACTGATATGTAAATATATTTGTATAAGAAAATG 234
                                                                                                                                                                                                  138 TTATTTTACTGATATGTATATATATTTGTATAAGAAAATG 179
```

```
March 19, 2004, 00:21:10 ; Search time 215 Seconds (without alignments) 3655.426 Million cell updates/sec
                                                                                                                                                                                                                      1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                        6747726
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                    3373863 segs, 2124099041 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                        OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                            Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geneseqn2003cs:*
geneseqn2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            geneseqn2001bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  geneseqn2003bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N_Geneseq_29Jan04:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqn2001as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          geneseqn2002s:*
geneseqn2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geneseqn1990s:*
geneseqn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geneseqn1980s:*
                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                US-09-834-271A-27
185
                                                                                                                                                                                                                                                            IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9:
                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                        Sequence:
                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
                                                                                                              Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	ion	B. amylol		ф		_		B. thurin					-		Subtilisi				Bacillus .		_		0 B. amylol	Transposo
	Description	Aaz23324	Aaf62647	Aad09924	Aaz23323	Aaf62646	Aad09923	Aaz23322	Aaf62645	Aad09922	Aaz23325	Aad09931	Aad34433	Ab140498	Aad34434	Ab140499	Aad34436	Ab140501	Aaa93677	Aca61514	Aaa93678	Aaz21079	3785	Aat39279
	ΠD	AAZ23324	AAF62647	AAD09924	AAZ23323	AAF62646	AAD09923	AAZ23322	AAF62645	AAD09922	AAZ23325	AAD09931	AAD34433	ABL40498	AAD34434	ABL40499	AAD34436	ABL40501	AAA93677	ACA61514	AAA93678	AAZ21079	AAA37850	AAT39279
	DB	0	4	4	~	4	4	0	4	4	7	4	φ	ø	9	9	9	9	m	~	ო	N	4	7
	ength	185	185	185	185	185	185	185	185	185	185	185	2166	2166	2267	2267	2588	2588	249	249	270	2604	2604	10216
dk	Query	100.0	100.0	100.0	99.1	1,66	1.66	97.4	97.4	97.4	96.5	96.5	85.4	85.4	85.4	85.4	85.4	85.4	85.0	85.0	ம	85.0	S	83.7
	Score		æ	185	•	œ	183.4	180.2	180.2	180.2	178.6	178.6	ıΩ	LO.	158	'n	'n	S		~	7		157.2	•
	Result No.	: H	64	m	4	'n	9	7	60	თ	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Aat85631 BAN promo Aaq22579 Sequence Aan20046 Bacillus			Ab196211 Ternamy Aad49392 pW0L995 p Aav02472 Bacillus Aah25109 Nucleotid Aad29902 Plasmid p	Aad09917 Oligo #2 Aaz23340 Bacillus Aaf62640 amyO prom Aad09916 Oligo #1 Aav38601 PCR prime Aaz23330 Bacillus
AAT85631 AAQ22579 AAN20046	AAQ86007 AAQ95032 AAX59681 AAX57596	AAA48484 ABL50568 AAS20026 AAI72215	ABL96211 AAD49392 AAV02472 AAH25109 AAD29902	AAD09917 AAZ23340 AAF62640 AAD09916 AAV38601 AAZ23330
0 0 H	1000	യയയ	01-440	404400
162 537 576	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2084 6661 2083 13222 6837	8 4 4 4 A A
2222	7000	4444	44.00	0.00.00.01.4
883	9 8 8 8 8	8 8 8 8 9 9 9 9	883 76 83 83 84	23.8 23.8 23.8 23.8 21.1 21.1
1111 154 154	4 4 4 4	4 4 4 4	154 154 93.6 00.2	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$
4 7 0 1	0 0 0 0	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	28765	0 1 2 5 4 5
	. 4 . 4 . 6 4 (*)		0	0
			J	

ALIGNMENTS

This invention describes a novel method for the production of a polypoptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly enzymes (specifically serine protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus amyloliquefaciens alpha-amylase amyQ promoter which is used to describe the method of the invention Tandem promoter; consensus promoter; enzyme production; hormone; amyQ; antibody; reporter; marker gene; cell regulation; alpha-amylase; ss. Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes. B. amyloliquefaciens amyQ promoter DNA #2. Claim 44; Page 90; 90pp; English. (NOVO) NOVO NORDISK BIOTECH INC. Thomas MD; BP. 98US-00031442. 99WO-US004360. AAZ23324 standard; DNA; 185 Bacillus amyloliquefaciens. (first entry) WPI; 1999-561370/47. Sloma A, WO9943835-A2. 26-PEB-1998; 26-FEB-1999; 02-SEP-1999. 06-DEC-1999 Widner W, AAZ23324;

120 120

9

XX

g

셤

·à

ద

ò

g

ò

```
/*tag= c //rate= "In column 26, a T to A mutation was said to occur at postition 116 but no such mutation was found in the sequence shown in the sequence listing of the specification"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to a method for producing a polypeptide, comparises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Bach promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem promoter or suptimes amyl promoter, amyl promoter, apryl promoter or subtilisin Carlsberg gene promoter. The consensus promoters
                                                                              61 CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCGCTGTGTAAAAAATAGGA
                                                                                                                                                    121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTGTATAAGAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus promoter #2
                                                          CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus cell; tandem promoter; consensus promoter; mutant; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Producing a polypeptide in a Bacillus strain comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 18; Col 43-44; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
replace(135, T)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= a
replace(136, T)
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     replace (156, A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas MD;
                                                                                                                                                                                                                                                                                                                                           AAD09924 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-0025B377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus amyloliquefaciens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-440518/47.
                                                                                                                                                                                                             181 AGCTC 185
                                                                                                                                                                                                                                               181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                    12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US6255076-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Widner W,
                                                                                                                                                                                                                                                                                                                                                                                AAD09924;
                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mutation
                                                                                                                                                                                                                                                                                                       RESULT 3
                                                                                                                                                                                                                                                                                                                           AAD0992
                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                    셤
                                                          δ
                                                                                                                                ò
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                o
                                                                                                                                                                                                                                               120
                                                                                                                                                                                                             ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                         ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATAATTTGTATAAGAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to Bacillus subtilis pectin acetylesterase protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGAACCATAAAAATACCTTGT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                        GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGGAAGAAGAAGACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                .
0
                                                        Ouery Match
100.0%; Score 185; DB 2; Length 185;
Best Local Similarity 100.0%; Pred. No. 3.1e-42;
Matches 185; Conservative 0; Mismatches 0; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match

100.0%; Score 185; DB 4; Length 185;
Best Local Similarity 100.0%; Pred. No. 3.1e-42;
Matches 185; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seguence 185 BP; 62 A; 25 C; 42 G; 56 T; 0 U; 0 Other;
                        T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pectin acetylesterase; degrade; plant cell wall; ss.
                          185 BP; 62 A; 25 C; 42 G; 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 9; Col 43-44; 35pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAF62647 standard; DNA; 185 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Consensus amyQ promoter #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brown KM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-190946/19.
                                                                                                                                                                                                                                                                                                                                                             AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Thomas MD,
                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                  181
                          Sequence
                                                                                                                                                                                                                                                                                                                                                               181
                                                              Query Match
```

ઠે

ds.

```
This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly nerymes (specifically serime protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specifical promoters provide increased expression of the sequence which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be
                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                ATAAAGGGGGGTTGACATATTTTACTGATATGTATAATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                             ATABAGGGGGGTTGACTTATTTTACTGATATGTATATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                       GGCCTTAAGGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGACCATAAAAATACCTTGT 60
   moter or
the -35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amyQ;
of the amyL promoter, amyQ promoter, aprH promoter, cryIIIA promoter c subtilisin carisberg gene promoter have the sequence TTGATG for the -3 region and TATAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is Bacillus amyloliquefactens alpha-amylase (amyQ) consensus mutated promoter, used in the exemplification of the invention
                                                                                                                                                                                                                                        GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAGAAGAGCCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                            CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          promoter; enzyme production; hormone; gene; cell regulation; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polypeptide in Bacillus using specific promoters,
                                                                                                                                                                                                        ;
0
                                                                                                                                                                     100.0%; Score 185; DB 4; Length 185; 100.0%; Pred. No. 3.1e-42; ive 0; Mismatches 0; Indels (
                                                                                                                                      Sequence 185 BP; 62 A; 25 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B. amyloliquefaciens amyQ promoter DNA #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         particularly for producing enzymes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 44; Page 90; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (NOVO ) NOVO NORDISK BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Thomas MD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00031442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99WO-US004360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAZ23323 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tandem promoter; consensus antibody; reporter; marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                         Best Local Similarity 100.
Matches 185; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Widner W, Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-561370/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Production of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W09943835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-SEP-1999
                                                                                                                                                                                                                                            Н
                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ23323
                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ23323
ID AAZ2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
     888888888888
                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
ö
deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus amyloliquefaciens alpha-amylase amyQ promoter which is used to describe the method of the
                                                                                                                                                                                                               120
                                                                                                                                                                                                                                   61 CIGTCATCAGACAGGGIATITITIATAGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAAGGA 120
                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                 121 ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATTATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to Bacillus subtilis pectin acetylesterase protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                                                          60
                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                                                                                                                     1 edectraaegecorecaarcearrerraaeaaaagaaeaaeacaraaaaaracerrer
                                                                                                                                                                                                                CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                       1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                               Gaps
                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4; Length 185;
                                                                                                     Length 185;
                                                                                                                               Indela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                                                                        Sequence 185 BP; 63 A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                                                                                                  Score 183.4; DB 2;
Pred. No. 8.8e-42;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pectin acetylesterase; degrade; plant cell wall;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 183.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 9; Col 43-44; 35pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVO ) NOVO NORDISK BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                   ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-00384305
                                                                                                   1 99.1%;
Similarity 99.5%;
84; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAF62646 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Consensus amyQ promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brown KM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-190946/19.
                                                                                                                                                                                                                                                                                                                                  185
                                                                                                                                                                                                                                                                                                                                                             AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 185 BP;
                                                                                                                                                                                                                                                                                                                                  AGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JS6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-AUG-1999;
                                                                                                     Query Match
Best Local Simil
Matches 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-FEB-2001,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell walls
                                                invention
                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAF62646;
                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                        AAF62646
                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                      8888888
                                                                                                                                                             à
                                                                                                                                                                                     g
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                             d
                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                          a
```

us-09-834-271a-27.rng

```
promoter comprises amyL promoter, amyQ promoter, aprH promoter, crylIIA promoter or subtilisin Carlaberg gene promoter. The consensus promoters of the amyL promoter, amyQ promoter, appH promoter, crylIIA promoter or subtilisin Carlaberg gene promoter have the sequence TTGACA for the -35 region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation meddum. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus mutated promoter, used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                 121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATTTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                      ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATAATTTGTATAAGGAAAATGG
                                                                                                                                                                                                                                   CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                             61 crercarcadacadegrarrrrrandererecadacierecegerereraaaaaaaaaaa
                                                                                                                                                          DB 4; Length 185;
                                                                                                                                Sequence 185 BP; 63 A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                                                                                                                                                        Query Match 99.1%; Score 183.4; DB 4; Best Local Similarity 99.5%; Pred. No. 8.8e-42; Matches 184; Conservative 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 90; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ23322 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US004360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antibody; reporter; marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tandem promoter; consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus thuringiensis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-561370/47
                                                                                                                                                                                                                                                                                                                                                                       AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9943835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Widner W,
                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAZ23322;
                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAZ23322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 $$$$$$$$$$$$$$
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                  ठ
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                       à
                  ö
                                                                                            120
                                                                                                                      120
                                                                                                                                                 180
                                                                                                                                                               09
                                                                    09
                                                                                                                                                                                                                                                                                                                                                                                              Bacillus cell; tandem promoter; consensus promoter; mutant; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; crylllA promoter; subtilisin Carlsberg gene promoter; alpha-amylase; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Each promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem
                                                              GCCCTTAAGGCCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAAGAACCATAAAAATACCTTGT
                                                                                              CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA
                                                                                                                     crercarcagacaggerarrrrrangererecegacrererereraaaaaagga
                                                                                                                                                 Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus promoter #1.
                                            GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACATAAAATACCTTGT
                   Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Producing a polypeptide in a Bacillus strain comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                   ö
                   Indels
                  Ĥ
      8.8e-42;
                  Mismatches
      Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 18; Col 43-44; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              replace (156, A)
/*tag= d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ê
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         replace(116, T)
                   ;
0
                                                                                                                                                                                                                                                                                             BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Thomas MD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag= b
replace(136, 7
/*tag= c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /*tag= a
replace(135,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-00258377.
     99.5%;
                                                                                                                                                                                                                                                                                             AAD09923 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                      amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                 (first entry)
                   184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI, 2001-440518/47.
      Best Local Similarity
                                                                                                                                                                                                    AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US6255076-B1
                                                                                                                                                                                                                                                                                                                                                 12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Widner W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                              61
                                                                                                                                                                          121
                                                                                                                                                  121
                                                                                                                                                                                                    181
                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus
                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mutation
                   Matches
                                                                                                                                                                                                                                                                                                           g
                                                                    쉱
                                                                                              à
                                                                                                                      g
                                                                                                                                                  ઠે
                                                                                                                                                                                                    슝
                                                                                                                                                                                                                            셤
                                              ઠ
```

180 180

120 60 9

Gaps

. 0

Indels

```
This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly enzymes (specifical serine protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence
                                                                                         promoter; enzyme production; hormone;
gene; cell regulation; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.
thuringiensis wild-type amyQ promoter DNA
```

4,

```
US6255076-B1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-FEB-1999;
                                                                                                                                                                                                                                                                                                               12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-JUL-2001
                                                                                                                                            121
                                                                                                  61
                                                                                                                                                                                                                                                                                          AAD09922;
                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                ò
                                                                           g
                                                                                                 ઠે
                                                                                                                                            ઠ
                                                                                                                                                                 셤
                                                                                                                                                                                        à
                                                                                                                         ö
                                                                                                                                                                                                                                    ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                       ATABARGGGGGGTTGTTATTATTATTACTGATATGTABAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                        CIGICAICAGACAGGGIAITITIAIGCIGICCAGACIGICCGCIGIGIAAAAAIAGGA 120
                                                                                                                                                                                                                The present invention relates to Bacillus subtilis pectin acetylesterase protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                                                                   9
which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus thuringiensis alpha-amylase amyQ promoter which is used to describe the method of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                    GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                                                              TTGAGAAAAAAAAAAAAAAAAAAAAAAATACCTTGT
                                                                                                                         Gaps
                                                                                                                         ;
0
                                                                                                  DB 2; Length 185;
                                                                                                                         Indels
                                                                              Sequence 185 BP; 62 A; 24 C; 42 G; 57 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                G; 57 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pectin acetylesterase; degrade; plant cell wall; ss.
                                                                                                  Score 180.2; DB 2;
Pred. No. 6.9e-41;
0; Mismatches 3;
                                                                                                                                                GGCCTTAAGGGCCTGCAATCGATTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 185 BP; 62 A; 24 C; 42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 9; Fig 9; 35pp; English
                                                                                                                                                                                                                                                                                                                                                               AAF62645 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-00384305
                                                                                                    97.4%;
                                                                                                               98.48;
                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                              Local Similarity 98.4
ses 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                              Wild type amyQ promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thomas MD, Brown KM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-190946/19.
                                                                                                                                                                                                                                                                                   AGCTC 185
                                                                                                                                                                                                                                                                                                        AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                          03-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-FEB-2001
                                                           invention
                                                                                                                                                                                          61
                                                                                                                                                                                                                61
                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                   AAF62645;
                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                888888888
                                                                                                                                                 ઠે
                                                                                                                                                                     B
                                                                                                                                                                                          ò
                                                                                                                                                                                                                g
                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                 ò
```

```
The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid consprises cultivating a tandem promoter and consensus promoters. The construct comprising a tandem promoter for the production of the pacillus is cultivated in a medium conducive for the production of the polypeptide. Each promoter sequence encoding the polypeptide. The tandem promoter comprises amyL promoter, amyQ promoter, aprH promoter, crylIIA promoter or subtilisin Carlaberg gene promoter. The consensus promoters of the amyL promoter, amyQ promoter, aprH promoter, crylIIA promoter, anyQ promoter, aprH promoter or subtilisin Carlaberg gene promoter the sequence TGQACA for the -35 region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is Bacillus amyLolquefaciones alpha-amylase (amyQ) promoter, used in the exemplification of the invention. Note: This sequence is
                                                                ö
                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         dв.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 crercarcacacacacararrrrrranccrercacacrercecrercranananaraca
                                                                                                                                                                                                  CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacillus cell; tandem promoter; consensus promoter; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase;
                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Producing a polypeptide in a Bacillus strain comprises cultivating Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                 1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCT
                                                                ö
   Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus amyloliquefaciens alpha-amylase (amyQ) promoter.
                                                                Indels
   Score 180.2; DB 4
Pred. No. 6.9e-41;
                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Example 18; Col 43-44; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas MD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-00258377.
Query Match
Best Local Similarity 98.4%;
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD09922 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Widner W, Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-440518/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 AGCTC 185
```

ö

Gaps

; 0

DB 2; Length 185; 4; Indels

56 T; 0 U; 0 Other;

```
Score 178.6; DB 2
Pred. No. 1.9e-40;
0; Mismatches 4
                  42 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thomas MD;
                                                                                                                                                                                                                                                                                                 AAD09931 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NOVO ) NOVOZYMES BIOTECH INC.
                  ວີ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00258377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-00031442.
                                      96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacillus amyloliquefaciens.
                                                                                                                                                                                                                                                                                                                                            (first entry)
                  Sequence 185 BP; 63 A; 24
                                     Query Match
Best Local Similarity 97.8'
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-440518/47
                                                                                                                                                                                                                    181 AGCTC 185
                                                                                                                                                                                                                                           AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US6255076-B1
                                                                                                                                                                                                                                                                                                                                            12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Widner W,
                                                                                                                             61
                                                                                                                                                                                                                                                                                                                        AAD09931;
                                                                                                                                                                         121
                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                          RESULT 11
                                                                                                                                                                                                                                                                                                  8 8
                                                                                    8
                                                                                                      셤
                                                                                                                              ò
                                                                                                                                                 d
                                                                                                                                                                         à
                                                                                                                                                                                               셤
                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly networks (specifically serine protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence the nucleic acid construct of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents the consensus sequence of a Bacillus sp. alpha-amylase amyQ promoter which is used to describe the method of the invention
                                                                                              ö
                                                                                                                                                              120
                                                                                                                                                                                     120
                                                                                                                                                                                                         180
                                                                                                                                                                                                                         9
                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                         Tandem promoter; consensus promoter; enzyme production; hormone; amyQ; antibody; reporter; marker gene; cell regulation; alpha-amylase; ss.
                                                                                                                                                                             CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                           ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTGTATAAGAAAATGG
                                                                                                                                         CTGTCATCAGGACAGGGTATTTTTTTTTGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                    GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
stated as being the same as that shown as SEQ ID NO 25 (AAD09931) in figure 21 of the specification. However the sequences differ by at position 116
                                                                                              Gaps
                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.
                                                                      DB 4; Length 185;
                                                                                              Indels
                                                  Sequence 185 BP; 62 A; 24 C; 42 G; 57 T; 0 U; 0 Other;
                                                                      Score 180.2; DB 4;
Pred. No. 6.9e-41;
0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus sp. amyQ promoter consensus DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 21; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thomas MD;
                                                                                                                                                                                                                                                                                                                                   AAZ23325 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US004360
                                                                     Query Match

Best Local Similarity 98.4%;
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-561370/47
                                                                                                                                                                                                                                                       AGCTC 185
                                                                                                                                                                                                                                                                            181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO9943835-A2
                                                                                                                                                                                                                                                                                                                                                                               06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Widner W,
                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                          AAZ23325;
                                                                                                                                                               61
                                                                                                                                                                                     61
                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                              RESULT 10
                                                                                                                                                                                                                                                                                                                            AAZ23325
                                                                                                                                                                                                                                                                                                                                     888888
                                                                                                                                       ద
                                                                                                                                                              ઠ
                                                                                                                                                                                   g
                                                                                                                                                                                                         à
                                                                                                                                                                                                                              占
                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                          요
```

```
180
                                                                                                          120
                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                 121 ATAAAGGGGGTTGTTATTTTACTGATATGTAAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= a
/note="Base T is found at this location in the sequence
shown in the sequence listing of the specification
(AAD09922)"
                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus cell; tandem promoter; consensus promoter; polypeptide production; amyL promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Each promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem
                                                                                                                                                                                                                                                                        ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                              CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                   Producing a polypeptide in a Bacillus strain comprises cultivating Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacillus amyloliquefaciens amyQ promoter, alternative version.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 18; Fig 21; 54pp; English.
```

```
promoter comprises amyL promoter, amyQ promoter, aprH promoter, cryIIIA promoter or subtilisin Carlsberg gene promoter. The consensus promoters of the amyL promoter, amyQ promoter, aprH promoter, cryIIIA promoter or subtilisin Carlsberg gene promoter have the sequence TrOACA for the -35 region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is an alternative of Bacillus amyloliquefaciens alpha-amylase sequence is stated as being the same as that shown as SEQ ID NO 25 (AADO9922) in column 43-44 of the specification. However the sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 ATABARGGGGGTTGTTATTATTTACTGATATGTABAATATBATTTGTATARGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Screening protease/protease inhibitor gene library for gene encoding the same, by constructing host cell having the gene, cultivating cell, dissociating complex formed between them, selecting protein and isolating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protease; screening; barley; chymotrypsin inhibitor; CI-2A; laundry; detergent industry; dishwash; fabric softener; subtillsin 309; savinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C-terminal Subtilisin 309-CI-2A fusion protein encoding construct A DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 crercarcaecaecaecararrrrrarecrerceaeacrercecerereraaaaaaea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 185 BP; 63 A; 24 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.9e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 178.6;
Pred. No. 1.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Norregaard-Madsen M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAD34433 standard; DNA; 2166 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGTCATCAGACAGGGTATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-JUL-2001; 2001WO-DK000503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-AUG-2000; 2000DK-00001273
05-SEP-2000; 2000US-0230017P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 97.8%;
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                           differ by at position 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NOVO ) NOVOZYMES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MPI; 2002-329776/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           lentus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200218588-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pedersen PE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chimeric; de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-AUG-2003
16-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-MAR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hordeum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD34433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
AAD34433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HANNE SERVICE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
          88888888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
```

```
The invention relates to a method for screening a protease/protease continity of a gene encoding a protease of interest. The method comprises introducing a first gene of the protease gene library and a second gene encoding a protease inhibitor into a host cell, call wherein the cell expresses the first and the cell associating the host cell, wherein the cell expresses the first and the cestod genes to produce a complex of a protease and the inhibitor; dissociating the inhibitor from the complex and selecting the protease of interest and isolating the encoding gene. A complex may be used for a number of industrial applications, in particular within the detergent industry, thus, relates to a cleaning or detergent composition, or peferably a laundry or dishwash composition comprising the complex, where hand or machine laundry detergent composition including a laundry additive composition, or be formulated as a detergent composition for use in general household hard surface cleaning operations or be formulated for hand or machine dish washing operations. The present sequence is a construct encoding a fusion protein containing C-terminal captured in the invention. (Updated on 29-AUG-2003 to standardise of field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           232 gegnartritrangcigiccagacigiccecricignaaaaraaggaaraagggggggrr 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         172 recaarcearrerrigadaaaaaaaaaaaaacaraaaaaracerrererrereaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protease; allergenicity; detergent; subtilase; Sl1; Sl2; additive; protease inhibitor; barley; chymotrypsin; CI-2A; fusion protein; subtilisin; savinase; apr gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 158; DB 6; Length 2166; Pred, No. 2e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2166 BP; 610 A; 442 C; 582 G; 532 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACATTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTÄTTÄTTTTACTGATATGTAAATATATATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA construct A comprising Savinase-CI-2A fusion sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'n.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                 Sxample 1; Page 47-48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          꼂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABL40498 standard; DNA; 2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-JUL-2001; 2001WO-DK000479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-AUG-2000; 2000DK-00001233.
24-AUG-2000; 2000US-0227501P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85.4%;
97.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (NOVO ) NOVOZYMES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200216619-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus sp.
Hordeum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABL40498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABL40498
ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
09-JUL-2001; 2001WO-DK000479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-AUG-2000; 2000DK-00001233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200216619-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus sp.
Hordeum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABL40499;
                                            gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABL40499
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                      133
                                                                                                                                                                                                                                                                                                                231
                                                                                                                                                                                                                                                                                                                                                          73
                                                                                                                   frame, the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protease; screening; barley; chymotrypsin inhibitor; CI-2A; laundry; detergent industry; dishwash; fabric softener; subtillsin 309; savinase;
                                                                                           The invention provides a method for producing a protease-inhibitor complex with reduced allergenicity for use in detergents. The method involves (a) constructing a fusion polymucleotide sequence in frame, th sequence comprising a first gene encoding a protease (preferably a subtiliss S11 or S12) and a second gene encoding a protease inhibitor; (b) introducing the sequence into a host cell; and (c) culrivating the host cell (the host cell expresses the sequence an produces a non-covalently linked complex of the protease and the inhibitor). The protease-inhibitor complex of the protease and the inhibitor; of protease-inhibitor complex of the protease and the inhibitors).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Subtilisin 309-CI-2A transcriptional product encoding construct B DNA.
                                                                                                                                                                                                                                                                                          recaarcearretrigagaaaaaaagaagaacaaraaaaaaaccrrercrercarcagaca
                                                                                                                                                                                                                                                                                                                                     74 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGAATAAAGGGGGGGTT
                                        Producing protease-inhibitor compositions with reduced allergenicity, stability and activity for use in detergent compositions.
                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                Score 158; DB 6; Length 2166; Pred. No. 2e-34;
                                                                                                                                                                                                                                                                                                                                                                                 GACATTATTTACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                      GITATITATITACIGATATGTAAATATATTTTGTATAAGAAATG 337
                                                                                                                                                                                                                           Sequence 2166 BP; 610 A; 442 C; 582 G; 532 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                      5; Indels
                                                                                                                                                                                                                                                                      0; Mismatches
                                                                         Example 1; Page 45-46; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Norregaard-Madsen M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAD34434 standard; DNA; 2267 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-JUL-2001; 2001WO-DK000503.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-AUG-2000; 2000DK-00001273.
05-SEP-2000; 2000US-0230017P.
                                                                                                                                                                                                                                                 85.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                       Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (NOVO ) NOVOZYMES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-329776/36.
                   WPI; 2002-242031/29.
                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hordeum sp.
Bacillus lentus.
Chimeric.
                                                                                                                                                                                                         fusion sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200218588-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pedersen PE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    detergent inc
chimeric; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-AUG-2003
16-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-MAR-2002.
Pedersen PE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAD34434;
                                                                                                                                                                                                                                                                                                                172
                                                                                                                                                                                                                                                                                                                                                                                134
                                                                                                                                                                                                                                                                                                                                                                                                     292
                                                                                                                                                                                                                                                             Local
δ
                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                     유
```

```
The invention relates to a method for screening a protease/protease inhibitor gene library for a gene encoding a protease of interest. The method comprises introducing a first gene of the protease gene library and a second gene encoding a protease inhibitor into a host cell, cultivating the host cell, wherein the cell expresses the first and the second genes to produce a complex of a protease and the inhibitor; of dissociating the inhibitor from the complex and selecting the protease of interest and isolating the encoding gene. A complex may be used for a number of industrial applications, in particular within the detergent industry, thus, relates to a cleaning or detergent composition, preferably a laundry or dishwash composition including a laundry detergent composition including a laundry composition suitable for pre-treatment of stained fabrics and a ringe added composition, or be formulated as a detergent composition for use in general household hard surface cleaning operations. The present sequence is a construct encoding a transcriptional fusion product containing C-terminal region of subtilisin 309 (savinase) and barley chymotrypsin inhibitor CI-2A protein used in the invention. (Updated on 29-AUG-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            291
Screening protease/protease inhibitor gene library for gene encoding the same, by constructing host cell having the gene, cultivating cell, dissociating complex formed between them, selecting protein and isolating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232 gegráfrírfráragerterenenenenteres a gegráfra a a gegráfra a ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protease; allergenicity; detergent; subtilase; SI1; SI2; additive; protease inhibitor; barley; chymotrypsin; CI-2A; fusion protein; subtilisin; savinase; apr gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 158; DB 6; Length 2267;
Pred. No. 2e-34;
); Mismatches 5; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2267 BP; 640 A; 462 C; 601 G; 564 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292 GTTATTATTTACTGATATGTAAATATATATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA construct B comprising Savinase-CI-2A fusion sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     134 GACATTATTTTACTGATATGTATAATATATTTGTATAAGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                        Example 1; Page 48; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL40499 standard; DNA; 2267 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 97.09
Matches 161, Conservative
```

```
The invention provides a method for producing a protease-inhibitor complex with reduced allerganicity for use in detergents. The method involves (a) constructing a fusion polynucleotide sequence in frame, the sequence comprising a first gene encoding a protease (preferably a subtiliase S11 or S12) and a second gene encoding a protease inhibitor; (b) introducing the sequence into a host cell; and (c) cultivating the host cell (the host cell expresses the sequence an produces a non-covalently linked complex of the protease and the inhibitor). The protease-inhibitor complex produced by the method may be used as an nucleotide sequence of a DNA construct comprising the savinase-CI-2A
                                                                                                                                                                   Producing protease-inhibitor compositions with reduced allergenicity, stability and activity for use in detergent compositions.
                                                                                                                                                                                                                                   Example 1; Page 46; 52pp; English
24-AUG-2000; 2000US-0227501P.
                                        (NOVO ) NOVOZYMES AS
                                                                                                                             WPI; 2002-242031/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fusion sequence
                                                                                    Pedersen PE;
```

Seguence 2267 BP; 640 A; 462 C; 601 G; 564 T; 0 U; 0 Other;

172 recharcearretrascanadancaracaranananaracerretratratradaca 231 73 0; Gaps 85.4%; Score 158; DB 6; Length 2267; 97.0%; Pred. No. 2e-34; Live 0; Mismatches 5; Indels (292 GITATIATITITACIGATAIGTAAAATATAAATITGTATAAGAAAATG 337 134 GACATTATTTTACTGATATGTATATATATTTTGTATAAGAAATG 179 Query Match
Best Local Similarity 97.0
Matches 161; Conservative ò a ઠે d à

Search completed: March 19, 2004, 01:38:17 Job time : 215 secs

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

March 19, 2004, 00:23:20 ; Search time 1078.5 Seconds (without alignments) 7434.827 Million cell updates/sec US-09-834-271A-27 185 1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185 6940544 3470272 segs, 21671516995 residues Total number of hits satisfying chosen parameters: Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries OM nucleic - nucleic search, using sw model IDENTITY_NUC Gapop 10.0 , Gapext 1.0 Minimum DB seq length: 0 Maximum DB seq length: 200000000 GenEmbl:* Title: Perfect score: Scoring table: Database : Sequence: Searched: Run on:

Dase : GenEmbl:*

1: gb ba:*

2: gb htg:*

4: gb om:*

5: gb om:*

6: gb ow:*

7: gb ph:*

10: gb ph:*

10: gb ph:*

11: gb sts:*

11: gb sts:*

12: gb vi:*

13: gb un:*

14: em fun:*

15: em fun:*

16: em fun:*

17: em hum:*

18: em ph:*

22: em vo:*

22: em vo:*

22: em vo:*

23: em ph:*

24: em htg other:*

31: em htg rod:*

32: em htg linv:*

33: em htg rod:*

34: em htg linv:*

35: em htg linv:*

36: em htg linv:*

37: em htg vod:*

38: em htg linv:*

39: em htg linv:*

31: em htg vod:*

32: em htg mm:*

33: em htg linv:*

34: em htg linv:*

35: em htg linv:*

36: em htg linv:*

37: em htg vod:*

38: em htg linv:*

39: em htg linv:*

39: em htg linv:*

39: em htg linv:*

40: em htgo_other:*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	200	Seque	AX088921 Sequence	AR160502 Sequence	AX088920 Sequence	BD136798 Process f	AR160501 Sequence	AAO8813 Sequence BD136797 Process f	BD174625 Modified	AR168304 Sequence	BD249244 Alpha-amy	AXIISZBB SEGUENCE AXO36892 Seguence	BD137366 Enzymatic	I40596 Sequence 24	140867 Sequence 24	140895 Sequence 24	V00092 Bacillus am	A00155 Nucleotide	A00156 Nucleotide A00157 Nucleotide	A00158 Nucleotide	A00604 B.amyloliqu	A00605 B.amyloliqu .T01542 Bacillus am	AR008285 Sequence	AR037275 Sequence	AR052145 Sequence AR087551 Sequence	AR129916 Sequence	AR137905 Sequence	AK143252 Sequence RD230131 Alpha-amv	AR224261 Sequence	AR285306 Sequence	AR428861 Sequence	AXZ44195 Sequence	AX339268 Sequence	AX370717 Sequence AX601810 Sequence	BD077082 Alpha-amy	BD085805 Alpha-amy			linear PAT 17-OCT-2001						. Bacillus cell	
SUMMARIES	i	AR16050	AX0889	AR1605	AX0889	BD1367	AR1605	BD1367	BD1746	AR1683	BD2492	AXO368	BD1373	140596									AR0082	AR0372		AR1299	AR1379	AR1432	AR2242	AR2853	AR4286	AX3050	AX3392	AX3707	BD0770	BD0858	ALIGNMENTS		Ω	62	4480	•		and Thomas, M	CK	os-dom-zoo fiers
* Query ce Match Length DB	יים ביים המושריו	20.0	100.0 185	99.1 185	99.1 185	99.1 185	97.4 185	97.4 185	85.0 249	85.0 2604	85.0 2604	85.0 2604	85.0 2604	83.2 162	83.2 162	4 83.2 162	4 83.2 537	4 83.2 576	4 83.2 576	4 83.2 576	4 83.2 576	4 83.2 576	4 83.2 2084	4 83.2 2084	4.4	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084	4 83.2 2084 4 83.2 2084	4 83.2 2084	4 83.2 2084			AR160503	Sequence 27 from pa	AR160503.1 GI:1622	unknown.	Unknown. Unclassified.	1 (bases 1 to 185) Widner, W. Sloma, A.	roduc	tion/
Result No. Score				183	183	183	180	180	0 157	1 157	157	157	5 157	9	۲,	ט פ ט דר	15.0	21 15	2 t	15	25 15	9 t	15	15	30 15	15	3 15	4 r	7	7 15	98	21.15	1 15	2 6	. 4	5 1		RESULT 1 AR160503		ITION		_		REFERENCE 1		

ò d ò 셤 ઠે g ŝ 셤

```
## (Dases 1 to 185)

## widner, W., Sloma, A. and Thomas, M.D.

Process for producing polypeptide in bacillus cells

Process for producing polypeptide in bacillus cells

Drocess for producing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAT 17-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CTGTCATCAGAGAGAGATATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                           Process for producing polypeptide in bacillus cells FH Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (fosses 1 to 185)
Widner, W., Sloma, A. and Thomas, M.D.
Methods, for producing a polypeptide in a Bacillus cell
Patent: US 6555076-A 26 03-UVL-2001,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 185;
Process for producing polypeptide in bacillus cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
100.0%; Score 185; DB 6;
Best Local Similarity 100.0%; Pred. No. 9.8e-36;
Matches 185; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism='Bacillus'
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR160502 185 bp 1
Sequence 26 from patent US 6255076.
AR160502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 183.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .185
/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                          BD136799
BD136799.1 GI:23231744
JP 2002504379-A/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:16224477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               j. .185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unclassified.
                                                                                                                                     unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AR160502.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unknown
                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
FEATURES
                                                                                                                ORGANISM
    DEFINITION
                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                        REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AR160502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 18-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAT 17-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    crercarcagacagggrarrrrarecrerceagacrercegereraaaaaragga 120
                                                                                                                                                                                                                                                                                              CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                         121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTATGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                            121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                   GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAACATAAAAATACCTTGT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Polypeptides having pectin acetylesterase activity and nucleic acids encoding same
Patent: WO 0114534-A 22 01 MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                        GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                             Gaps
                                                                                                                                                             ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacillus subtilis
Bacillus subtilis
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 185;
                                                                                                                  Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                             ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 185; DB 6;
100.0%; Pred. No. 9.8e-36;
ive 0; Mismatches 0;
                                                                                                                Query Match
Best Local Similarity 100.0%; Pred. No. 9.8e-36;
Matches 185; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .185
/organis="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423"
                          /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 22 from Patent W00114534. AX088921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novozymes Biotech, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Thomas, M.D. and Brown, K.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX088921.1 GI:13397680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 185; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BD136799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 3
BD136799
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 2
AX088921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

ò ద ò 원 ð ઠ a

9

Key

```
linear PAT 17-OCT-2001
                                                                                                 JP 2002504379-A/26
12-FEB-2002
12-FEB-1999 JP 2000533574
26-FEB-1999 US 09/031442
MILLIAM WIDNER, ALAN SLONA, MICHAEL D THOMAS
C12N15/09, C12N1/21, C12N9/54//C07K14/325, (C12N1/21, C12R1:07),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGAAGCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                  Process for producing polypeptide in bacillus cells FH Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  [ (bases 1 to 185) Widner, W. Sloma, A. and Thomas, M.D. Widner, W., Sloma, A. and Thomas, M.D. Methods for producing a polypeptide in a Bacillus cell Patent: US 6255076-A 25 03-UUL-2001, Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                 Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 185;
         1 (bases 1 to 185)
Widner,W., Sloma,A. and Thomas,M.D.
Process for producing polypeptide in bacillus cells
Patent: JP 2002504379-A 26 12-PEB-2002;
NOVO NORDISK BICTECH INC
                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                 . 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97.4%; Score 180.2; DB 6;
98.4%; Pred. No. 1.5e-34;
live 0; Mismatches 3;
                                                                                                                                                                                                                                          /organism='Bacillus'
                                                                                                                                                                                                                                                                                                                                                             99.1%; Score 183.4; DB 6 99.5%; Pred. No. 2.4e-35; cive 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 25 from patent US 6255076.
AR160501
AR160501.1 GI:16224474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="unknown"
/wol_type="unassigned DNA"

    .185
    /organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"

                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 98.4
Matches 182; Conservative
unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unclassified.
                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unknown
                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 7
AR160501
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
CETWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
FEATURES
               REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                               FEATURES
                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 18-SEP-2002
                 ô
                                                                                                                                                                                                                                                                                                                      PAT 17-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                    120
                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAGGA 120
                                                                                                                                                                             9
                                            9
                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas, M.D. and Brown, K.M.
Polypeptides having pectin acetylesterase activity and nucleic acids encoding same
acids encoding same
Patent: WO 0114554-A 21 01-WAR-2001;
Novozymes Biotech, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA
                                           1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGAAGAACCATAAAAATACCTTGT
                                                                       CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                          121 ATAAAGGGGGTTGACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                                                                                         Bacillus subtilis
Bacillus subtilis
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 99.1%; Score 183.4; DB 6; Length 185; Best Local Similarity 99.5%; Pred. No. 2.4e-35; Matches 184; Conservative 0; Mismatches 1; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Process for producing polypeptide in bacillus cells. BD136798 GT:23231743 UP 2002504379-A/26. Unidentified unidentified
                                                                                                                                                                                                                                                                                                                      linear
               Indels
   Pred. No. 2.4e-35;
                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423"
               0; Mismatches
                                                                                                                                                                                                                                                                                                                   AX088920 185 bp
Sequence 21 from Patent W00114534.
AX088920
                                                                                                                                                                                                                                                                                                                                                                AX088920.1 GI:13397679
99.5%;
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                   181 AGCTC 185
                                                                                                                                                                                                                                          181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTC 185
                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                               DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
BD136798
LOCUS
                                                                                                                                                                                                                                                                                       RESULT 5
AX088920
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                    원
                                                                                                                             g
                                                                                                                                                                                      g
                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                            ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                  Š
                                                                                                                                                          ઠે
```

ö

9 9 120 120 180 180 ö

9

셤 ò 셤 $\stackrel{>}{o}$ g

ઇ

```
PAT 18-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09
                  JP 2002504379-A/25
12-PEB-2002
26-PEB-1999 JP 20005331574
MILLIAM WIDNER, ALAN SLOMA, MICHAEL D THOMAS
C12N15/09, C12N1/21, C12N9/54//C07K14/325, (C12N1/21, C12R1:07),
Process for producing polypeptide in bacillus cells FH Key
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DELIVACES.1 GI:29120315

BD174625.1 GI:29120315

JP 2002272466-A/14.

Bacillus amyloliquefaciens

Bacteria; Firmicutes; Bacillales; Bacillus amyloliquefaciens

Bacteria; Firmicutes; Bacillales; Bacillus amyloliquefaciens

I (bases 1 to 249)

Mixubuchi, H., Fushimi, N. and Miyoshi, S.

Modified promoter

L SEOWA SANGYO CD LTD

CS Bacillus amyloliquefaciens

PR D 24-SEP-2002

PP 15-WAR-2001 JP 2001074780

PP 16-WAR-2001 JP 2001074780

PP 17-WAR-2001 JP 2001074780

PP 18-WAR-2001 JP 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ATAMAGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGAGCCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 egectraagegectrecaarcearrerrreagaaaagaagagaccaraaaaaraccrrer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism='Bacillus amyloliquefaciens'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 6; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tch 97.4%; Score 180.2; DB 6; Length al Similarity 98.4%; Pred. No. 1.5e-34; 182; Conservative 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. 249
/organism="Bacillus amyloliquefaciens"
/mol_type="genomic DNA"
/db_xref="taxon:1390"
                                                                                                                                                                                                                                                                                                              /organism='Bacillus'. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA

    .185
    /organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BD174625
Modified promoter.
BD174625
                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
SECTATIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S:
Matches 182,
                                                                                                                                                                                                                                                                                        달
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
BD174625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PAT 18-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 17-MAR-2001
                                                                                                                                             180
                                                                                                                                                                                                   ATAAAGGGGGGTTGTTATTTTACTGATATGTAAAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                     61 CTGTCATCAGAGAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thomas,M.D. and Brown,K.M.
Polypeptides having pectin acetylesterase activity and nucleic acids encoding same
Patent: WO 0114534-A 20 01-MAR-2001;
Novozymes Biotech, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                                                                                                             ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacillus subtilis
Bacillus subtilis
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BD136797

N Process for producing polypeptide in bacillus cells.

BD136797.1 G1:23231742

BD136797.1 G1:23231742

W BD136797.1 G1:23221742

W BD136797.1 G1:23221742

W BD136797.1 G1:23221742

W BD136797.1 G1:23221742

W BD136797.1 G1:23222

W BD136797.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 97.4%; Score 180.2; DB 6; Best Local Similarity 98.4%; Pred. No. 1.5e-34; Matches 182; Conservative 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. 185
/organism="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AX088919 185 bp
Sequence 20 from Patent WO0114534.
AX088919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX088919.1 GI:13397678
                                                                                                                                                                                                                                                            AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTC 185
                                                                                                                                                                                                                                                                                                                    AGCTC 185
                                                                                                                                          121
                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                       181
                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
BD136797
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 8
AX088919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
```

a

ò

원

ò

g ò g

ò

Ö

음

ઠે

g

ઠે

```
ALLAN SVENDSEN, SOEREN KJAERULFF
CI2N15/09,CI1D3/386,CI2N1/15,CI2N1/19,CI2N1/21,CI2N5/10,CI2N9/
28,CI2P7/06,
CI2P19/14,CI2S11/00//(CI2N9/28,CI2R1:07),(CI2N9/28,CI2R1:10),
(CI2N9/28,CI2R1:125),CI2N15/00,CI2N5/00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAT 25-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 2604)
Andersen, C., Jorgensen, C.T., Bisgrd-Frantzen, H., Svendsen, A. and Kjaerulff, S.
Alpha-amylase variants
Patent: US 6410225-A 5 25-UN-2002;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653 ATTTTTTÄNGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-MAR-2000 JP 2000609551
30-MAR-1999 DK PA 199900437
CARSTEN ANDERSEN, CHRISTEL THEA JOERGENSEN, HENRIK BISGARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 2604;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 2604;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138 TTATTTTACTGATATGTATATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTATTTTACTGATATGTAAAATATATTTGTATAAGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , Match 85.0%; Score 157.2; DB 6; Local Similarity 98.1%; Pred. No. 5.3e-29; Nes 159; Conservative 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   85.0%; Score 157.2; DB 6;
llarity 98.1%; Pred. No. 5.3e-29;
Conservative 0; Mismatches 3;
                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                  (863)..(2314)
(2321)..(2376)
(863)..(2314).
                                                                                                                                                                                                                                                                                                                        (707) . (712)
(729) . (734)
(759) . (762)
(770) . (862)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AR215288 2604 bp
Sequence 5 from patent US 6410295.
AR215288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="unknown"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR215288.1 GI:23313486
                                                                                                                                                                                                                                                                                                                                                                                                  sig_peptide
mat_peptide
terminator
CDS
                                                                                                                                                                                                                                                                                                                           -10_signal
-35_signal
RBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 159; Conserv
PR 03-D)
PR 28-M
30-M
PI CARS'
PRANTZEN,
PRANTZEN,
PRANTZEN,
PI CALS'
CO C121,
CO C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
AR215288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAT 17-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAT 17-JUL-2003
                                                                                                                                                                                       132
                                                                                                                                                                                                                                        133 ATTITITATGCTGTCCAGACTGTCGCTGTGTAAAAAATAGGAAATAAAGGGGGGGTTGTTA 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78 ATTITITIAGCIGICCAGACTGICCGCIGIGIAAAAAAAAGGGAATAAAGGGGGGIIGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alpha-amylase variants.

BD249244

BB211us amyloliquefaciens

BB211us amyloliquefaciens
                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 6; Length 2604;
                               Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 2604)
Norman, B. Edmund. and Hendriksen, H. Vang.
Enzymatic preparation of glucose syrup from starch
Patent: US 6287826-A 3 11-SEP-2001;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                  138 TTATTTTACTGATATGTATATATATTTGTATAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                    193 TTATTTTACTGATATGTAAAATATAATTTGTATAAGAAATG 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             138 TIATITIACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              713 TTATTTTACTGATATGTAAATTATAATTTTGTATAAGAAATG
                            Query Match 85.0%; Score 157.2; DB 6; Best Local Similarity 98.1%; Pred. No. 7.4e-29; Matches 159; Conservative 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 85.0%; Score 157.2; DB 6; Similarity 98.1%; Pred. No. 5.3e-29; 59; Conservative 0; Mismatches 3;
                                                                                                                                   18 ATCGATTGTTTGAGAAAAAAAGAAGACCATAAAAATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alpha-amylase variants
Patent: JP 2002540785-A 3 03-DEC-2002;
NOVOZYMES AS
OS Bacillus amyloliquefaciens
PN JP 2002540785-A/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .2604
/organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AR168304 2604 bp
Sequence 3 from patent US 6287826.
AR168304 GI:17904148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2604 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
Unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BD249244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Simil
Matches 159; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 11
AR168304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BD249244
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

셤

셤 ઠે

ઠે

ö

652

ó

652

```
138
             DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                         AUTHORS
TITLE
JOURNAL
                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                     Svendsen, A., Andersen, C., Bisgaard-Frantzen, H., Joergensen, C.T. and Kjaerulff, S.
Alpha-amylase variants
Patent: WO 0060059-A 5 12-0CT-2000;
NOVONORDISK AS (DK)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADWDESKISBI FKFREEGKANDWEVGSENGHYDYLMYADUYDHPDYVAETHENDY
YANELSLDGFRI DAAKHI KFS FLRDWVQAVRQATGKEMFTVAEYWONNAGKLENYLNK
SPROSVPDYDPHHRULQAS QQGGGHOVRRLLLGGTVVSRHPESKAVFVENHOTQPGQS
LBSTVQTWFYELAYAPILT RESGYPQVFYGDMYGTKGTSPKEI PSIKDNI EPILKARK
EYAYGPCHDY IDHPDVI GWTREGDSSAAKSGIAALITDGFGGGSKRWYAGLKNAGETWY
DITGNRSDTYKIGSDGWGEFHYNDGSVSIYVQK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /protein_id="CAC16484.1"
db xxef="G1:1122532"
db Xxef="G1:1122532"
/translation="VNGTLMQYFEWYTPNDGQHWKRLQNDAEHLSDIGITAVWIPPAY
/translation="VNGTLMQYFEWYTPNDGQHWKRLQNDAEHLSDIGITAVWIPPAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                             PAT 16-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGLSQSDNGYGPYDLYDLGEFQQKGTVRTKYGTKSELQDAIGSLHSRNVQVYGDVVLN
HKAGADATEDVTAVEVNPANRNQETSEEYQIKAWTDFRFPGRGNTYSDFKWHWYHPDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTITITIATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGAATAAAGGGGGGTTGTTA 712
653 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGAATTAAAGGGGGGTTGTTA 712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                        Bacillus amyloliquefaciens
Bacillus amyloliquefaciens
Bacteria, Pirmicutes, Bacillales, Bacillaceae, Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6; Length 2604;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
85.0%; Score 157.2; DB 6; Length 2
Best Local Similarity 98.1%; Pred. No. 5.3e-29;
Matches 159; Conservative 0; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTATTTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             riaririracidarangraaararaharirigraraagaaarg 754
                                                                              713 TTATTTTACTGATATGTAAATATAATTTGTATAAGAAATG 754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                863. .2314
note="unnamed protein product"
                                                                                                                                                               DNA
                                                                                                                                                            AX036892 2604 bp
Sequence 5 from Patent WO0060059.
AX036892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /product="unnamed"
2321. .2376
                                                                                                                                                                                                          AX036892.1 GI:11226326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 codon start=1
transI table=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           terminator
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -10_signal
-35_signal
RBS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             713
                                                  138
                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                               RESULT 14
AX036892
                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                               LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                    셤
                                                  à
                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
```

RESULT 15 BD137366

```
Enzymatic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
        PAT 18-SEP-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus amyloliquefaciens
Bacillus amyloliquefaciens
Bactria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
1 (bases 1 to 2604)
Norman, B.E. and Hendriksen, H.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match

85.0%; Score 157.2; DB 6; Length 2604;
Best Local Similarity 98.1%; Pred. No. 5.3e-29;
Matches 159; Conservative 0; Mismatches 3; Indels 0;
ED137366 2604 bp DNA linear
Enzymatic preparation of glucose syrup from starch.
BD137366
                                                                                                                                         Enzymatic preparation of glucose syrup from starch
Patent: JP 2002505885-A 2 26-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         713 tratitractdaratchaaararaarrigrahaagaaarg 754
                                                                                                                                                                                                                                                                                                                                                                                                                  Search completed: March 19, 2004, 02:14:35 Job time : 1078.5 secs
                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                               BD137366.1 GI:23232311
JP 2002505885-A/2.
```

```
ALIGEGEG TETRACOGN
BH922535 60194C08.
BH922515 80439C08.
BH92519 BX356191 BX356191 BX356191 BX356191 BX356191.x
BQ0000230 UT.H-BID.
A1879617 tm32B12.x
A1879617 tm32B12.x
A1879617 tm32B12.x
A1879617 tm32B12.x
A1879619 BX419991 TM3227F BX3666 FXBLATR IG
A269104 601604361 AX651970 BX456197 tm36203.x
A18770619 tm76903.x
A2691916 ENTGA19TR
A2691916 ENTGA19TR
A2691916 ENTGA19TR
A2691916 ENTGA19TR
A2691916 ENTGA19TR
A26107 BX426107 BX436107 BX426107 BX436107 BX426107 BX436107 BX426107 BX436107 BX426107 BX436107 BX436107 BX436107 BX436107 BX436107 BX43011 ALS93011 ALS93011 ALS93011 ALS93011 ALS93011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             augkads.yl Gm-c1048 Glycine max cDNA clone SOYBEAN CLONE ID: CA819917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shoemaker, R. Carti, P., Vodkin, L., Expelding, J., Coryell, V.,
Khanna, A., Bolla, B., Marra, M., Hillier, L., Kucaba, T., Martin, J.,
Beck, C., Wylle, T., Underwood, K., Steptoe, M., Theising, B., Allen, M.,
Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N.,
Schurk, R., Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M.,
McCann, R., Watersten, R. and Wilson, R.,
Dublic Soybean EST Project
Unpublished (1999)
Contact: Shoemaker R/Public Soybean EST Project
Public Soybean EST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Phaseoleae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALIGNMENTS
BZ072552
CNS01117
CNS01117
CNS01117
CNS01117
CNS01117
CNS01117
CNS01117
CNS01186
AM256191
BM0019630
AM256191
BM1697617
AM25419
AM2546631
BM153609
BM153720
CM2030599
AM260935
BM469979
AM260935
BM469979
AM260935
BM469979
AM260935
BM469979
AM260935
BM469979
CMS0000KY
CNS0000KY
CNS000CU
CM3000KY
CNS000CU
CM300FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS00FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS000FY
CNS00FY
CNS00F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CA819917.1 GI:26268854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycine max (soybean)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 427)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \begin{matrix} \mathbf{u} & \mathbf{u} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     35.08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 1
CA819917
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
   CA819917 sau82a05.
AL554700 AL554700
CE808066 tigr-gss-
BX446359 BX446359
                                                                                                                                                                                                          March 19, 2004, 01:21:15 ; Search time 1837 Seconds (without alignments) 3007.351 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                              ggccttaagggcctgcaatc......tgtataagaaaatggagctc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55026578
                                GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27513289 seqs, 14931090276 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CA819917
AL554700
CE808066
BX446359
                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_esthum: *
em_esthum: *
em_estup: *
em_estror: *
em_estror: *
em_htc: *
em_htc: *
em_htc: *
em_htc: *
em_htc: *
em_estror: *
em_estro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_gss_ftun.*
em_gss_mam:*
em_gss_nod:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
em_gss_pro:*
gb_gss_rr1:*
gb_gss_rr1:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                 US-09-834-271A-26
185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   427
1201
735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24.3
21.9
21.8
21.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing:
```

Score

Result No.

40.6 40.6 40.4

υ

Total number of

Searched:

Minimum DB Maximum DB

Database

Perfect score:

ё ::

Run

Sequence:

Scoring table:

```
137 ATTATTTTACTGATATGTATATATATTT 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             890 NITITITITITITITAAIGAIACAACII 861
                                                                                                                                                        /organism="Homo sapiens"
                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="CSODIO85YH07"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CE808066.1 GI:37149050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Canis familiaris (dog)
                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Class: shotgun.
                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CE808066
                                                                                                                                                                                                                                                                                                                                                          59;
                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
CE808066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                  Tel: 314 286 1800

Fax: 314 286 1810

Email: est@watson.wustl.edu

This clone is avallable through: ResGen, Invitrogen Corp. 2130

South Memorial Parkway Huntsville, AL 35801 For further information call: (800)-533-4363 or contact: ccu@resgen.com web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 31-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201 bp mRNA linear EST 31-WAY-200:
AL554700 Homo sapiens PLACENTA COT 25-NORWALIZED Homo sapiens cDNA
clone CSODIO85YH07 5-PRIME, mRNA sequence.
AL554700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164 indocrinirintalaadadaalaadaaaaaaaaaaaaaaaaaaaaacciniririaaccintrinaacic 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens Bukaryota, Marazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Maukaryota, Metazoa, Primates, Catarrhini, Hominidae, Homo. 1 (bases 1 to 1201) Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDMA libraries and normalization Unpublished (2001) On Feb 15, 2001 this sequence version replaced gi:12895734.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITITITATGCTGTCCAGACTGTCCGCTGTAAAAAAAAAGGAATAAAGGGGGGTTGACAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24.3%; Score 45; DB 14; Length 427; 54.5%; Pred. No. 0.89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          139 TATTITACTGATATGTATATATATTTGTATAAGAAAATGGAGC 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    284 irririrriaaaairrirarircaarirriaaaaaaarrisdacc 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                               Seg primer: -40RP from Gibco
High quality sequence stop: 418.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALS54700.2 GI:31276510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                        .427
                                                                                      www.resgen.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
Matches 9
                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
AL554700/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   충
```

```
tigr-ges-dog-17000317853400 Dog Library Canis familiaris genomic, TRRR tamiliaris genomic, TRRR taminiaris genomic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Kirkness EF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
Tel: 301-838-0200
Fax: 301-838-0208
Email: ekirknes@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77 TATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAAGGAATAAAGGGGGGGTTGAC 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Canis familiaris
Canis familiaris
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Fissipedia; Canidae; Canis.
1 (bases 1 to 735)
Kirkness, E.F., Bafna, V., Halpern, A.L., Levy, S., Remington, K., Rusch, D.B., Delcher, A.L., Pop, M., Wang, W., Fraser, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tiesue_type="PLACENTA COT 25-NORMALIZED"
/clone_lib="Homo sapiens PLACENTA COT 25-NORMALIZED"
/note="1st strand cDNA was primed with a NotI-oligo(dT)
primer: Five prime end enriched, double-strand cDNA was
digested with Not I and cloned into the Not I and Ecox V
sites of the pCMVSPORT 6 vector. Library was normalized.
Email: segref@genoscope.cns.fr, Web : www.genoscope.cns.fr
library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 8225.r For
more information about this cluster, see
http://www.genoscope.cns.fr/
cgi-bin/cluster.cgi?seq=cSODIO85CD04QPl&cluster=8225.r. Contact :
Feng Liang Email : fliang@lifetech.com URL : corporation 1600
http://fulllangth.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CSODIO85CD04QPl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The dog genome: survey sequencing and comparative analysis Science 301 (5641), 1898-1903 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 .735
/organism="Canis familiaris"
/mol type="genomic DNA"
/strain="Standard Poodle"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21.9%; Score 40.6; DE
39.3%; Pred. No. 6.8;
:ive 33; Mismatches
```

```
Elekaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Elekaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; roside; euroside II; Brassicales; Brassicaceae; Brassica.

1 (bases I to 699)

88 Delehaunty,K., Fewell,G., Fulton,L., McCombie,W.R., Miner,T., Moble genome shotgun reade from Brassica oleracea

Unpublished (2002)

40 Unpublished (2002)

41 Unpublished (2002)

42 Contact: Richard K. Wilson

Genome Sequencing Center

Hashington University School of Medicine

Email: subnissions@watson.wusell.edu

Plate: lkf46 row: b column: 09

Seq primer: -21UPpOT forward

Class: shotgun

High quality sequence start: 17

High quality sequence stop: 551.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CNS01TL7 1018 bp DNA linear GSS 01-SEP-2000 Tetracdon nigroviridis genome survey sequence T7 end of clone
                                                                                                                                                                                                                                                                                                                      BZ072552 (99 bp DNA linear GSS 10-OCT-2002 lkf46b09.b1 B.oleracea002 Brassica oleracea genomic, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol Lypenian graces of the form of the fo
                                                        TTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAGGAATAAAGGGGGGGTTGACATTAT 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 ATTGTTAAAAATTATAATAAAATAAATAAATTTAATTGTAAATATTTTATTGTATTT 387
                               388 ritaararigigaagaarcragarritriragaaakcrgaggaaaraccargitargrcar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTIGTTTGAGAAAAAAAAAACCATAAAAATACCTTGTCTGTCAGAAAAAATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                      852
                                                                                                                                     125 AGGGGGTTGACATTATTTACTGATATGTATATATATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                    Length 699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             142 ITTACTGATATGTATATATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rrraraaargaarrraagarraragargrarracaa 483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       organism="Brassica oleracea"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21.2%; Score 39.2; D
53.2%; Pred. No. 17;
iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                     BZÖ72552
BZO72552.1 GI:23690695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 53.2
3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Brassica oleracea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brassica oleracea
                                                                                                                                                                                                                                                                                                                                                                            sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Simi
Matches 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                448
                               65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
CNSO1TL7
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                     RESULT 5
BZ072552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                  8
                                                                 a
                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contract: Genoscope
Genoscope - Centre National de Sequencage
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
BP 191 91006 EVRY cedex - France
Email: seqrefégenoscope.cns.fr, Web: www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
Invitrogen. This sequence belongs to sequence cluster 2980.r Por
more information about this cluster, see
http://www.genoscope.cns.fr/
cgib.bin/cluster.cgiPseq=CLDAA012G04FP1&cluster=2980.r. Contact :
Feng Liang Email: flang@alifetech.com URL :
http://fulllength.invitrogen.com/ InvitroGen Corporation 1600
Faraday Avenue Genoscope sequence ID : CLOBA003ZG04FP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BX446359 Homo sapiens PLACENTA Homo sapiens cDNA clone CL0BA003ZG043-PRIME, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                            90 GTCCAGACTGTCCGCTGTGTAAAAAAAGGAATAAAGGGGGGTTGACATTATTTTACTGA 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 1201)
1 (Ja B., Gruber, C., Jessee, J. and Polayes, D.
Full-length cDNA libraries and normalization
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                        74
                                                                                                                                                                                                                                                                        83
                                                                                                                                                                                                                                                                     30 AGAAAAGAAGAAGACCATAAAAATACCTTGTCTGTCATCAGACAGGGTATTTTTATGCT
                                                                                                                                                                                                                                                                                                                        75 TITTTTGTTTTCCTCTTGGTAAATGAATGAACAACCATTTGTTTTTGTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                     Gaps
/db_xref="taxon:9615"
/clone_lib="Dog_Library"
/note="Site_l: BstXI; Libraries were prepared from
peripheral_blood"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .,
0
                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1201;
                                                                                                                                                            Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                  Indels
                                                                                                                                                            21.8%; Score 40.4; DB 29; ilarity 53.9%; Pred. No. 8.9; Conservative 0; Mismatches 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21.7%; Score 40.2; DB 13;
40.5%; Pred. No. 8.4;
live 27; Mismatches 76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     150 TATGTATAATATATTTGTATAAAAATGGAGC 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        135 GTTTATTTATTTAGACCAAGAGAAAGGAGC 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BX446359
BX446359.1 GI:31023719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 70; Conserv
                                                                                                                                                                                      Similarity
                                                                                                                                                                                                               83;
                                                                                                                                                                  Query Match
                                                                                                                                                                                           Local
                                                                                                                                                                                        Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 4
BX446359/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

ô

us-09-834-271a-26.rst

```
1...700
/ organism="Brassica oleracea"
/ noi_type="genomic DNA"
/ hol_type="genomic DNA"
/ db xref="taxon:3712"
/ clone_lib="B.oleracea002"
/ clone="tector: pOTW13; Whole genome shotgun library from /note="tector: pOTW13; Whole genome shotgun library from flowering buds. DNA was purified from a crude nuclear prep using Brassica oleracea TO1000DH3 buds provided by Thosmas Osborn at the University of Wisconsin. Genomic DNA was provided by Pablo Rabinowicz (CSHL) and the shotgun library prepared at Washington University Genome Sequencing Center."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BX356191 1201 bp mRNA linear EST 05-MAY-2003
BX356191 Homo sapiens PLACENTA COT 25-NORWALIZED Homo sapiens CDNA
clone CSODI009YC24 5-PRIME, mRNA sequence.
BX356191
                    Brassica oleracea
Brassica oleracea
Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Tosida; eurosida II; Brassicales; Brassicaceae; Brassica.
1 (bases 1 to 700)
Delehaunty, K., Fewell, G., Fulton, L., McCombie, W.R., Miner, T.,
Mab, W., Rabinowicz, P.D. and Wilson, R.K.
Whole genome shotgun reads from Brassica oleracea
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 313 İTİTACAAAAAAATTTTGTATAAAİTÖGAİTİTTTGGAİTTTACAAAAACAİTİTİA 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    373 ATATCTATACAACTTTTTTTTTTTAAAAACTATAATTTGGGATTTTAAAAATTTT 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1201)
1 (bases 2 to 1201)
1 (bases 3 to 1201)
1 (bases 4 to 1201)
1 (bases 4 to 1201)
1 (bases 5 to 1201)
1 (bases 6 to 1201)
1 (bases 6 to 1201)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26 TITGAGAAAAGAAGAACCATAAAATACCTIGTCTGTCATCAGACAGGGTATTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Genoscope
Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: seqrefégenoscope.cns.fr, Web : www.genoscope.cns.fr
Library was constructed by Life Technologies, a division of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 20.8%; Score 38.4; DB 28; Length 700; I Similarity 53.3%; Pred. No. 27; 81; Conservative 0; Mismatches 71; Indels 0
                                                                                                                                                                                                                                                                                                            of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     146 CTGATATGTATAATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    433 AATATATATATATATATATATATTATAAA 464
                                                                                                                                                                                                                                                                                  Genome Sequencing Center
Washington University School of P
Email: submissions@watson.wustl.e
Plate: od044 row: c column: 08
Seq primer: -21UPpOT forward
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                High quality sequence start: 56
High quality sequence stop: 551.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BX356191.1 GI:30365992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                             TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BX356191
LOCUS
  KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web: www.genoscope.cns.fr)
This sequence is a single read and was generated as part of a large scale clone-end sequencing project of the Tetraodon nigroviridis genome. For more information, please take a look at http://www.genoscope.cns.fr/Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BH922535 700 DNA linear GSS 01-OCT-2002 od194c08.b1 B.oleracea002 Brassica oleracea genomic, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :
BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    595 AAWKKKAAAAAAAAAAAAAKABWAAAAAAATTTTTAAAWTTAATAAAAAAAAATTT 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   655 тілаамалітітулітілаатітітимітимаададададыны тілуамадіра 714
                                                                                                                                                               Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Actinopterygii, Neopterygii, Taleostei, Buteleostei, Neoteleostei, Acanthopterygii, Percomorpha, Acanthopterygii, Percomorpha, Tetraodontiformes, Tetradontoidea, Tetraodontidae, Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Roest Crollius, H., Jaillon, O., Dasilva, C., Ozouf-Costaz, C., Fizames, C., Fischer, C., Bouneau, L., Billault, A., Quetier, F., Saurin, W., Bernot, A. and Weissenbach, J. Characterization and repeat analysis of the compact genome of the Treshwater pufferfish Tetraodon nigroviridis Genome Res. 10 (7), 939-949 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                  Roest Crollius, H., Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C., Barnot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F., Baurin, W. and Weissenbach, J. Estimate of human gene number provided by genome-wide analysis using Tetraodon nigroviridis DNA sequence 25 (2), 235-238 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. 1038
/organism="Tetraodon nigroviridis"
/organism="Tetraodon nigroviridis"
/mol_type="genomic DNA"
/db_tref="laxon:99883"
/clone="194P16"
/clone_lib="Genoscope sequence ID : COAG194DH08LP1~end : T7"
of library G from Tetraodon nigroviridis, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82 TITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGGGTTGACATTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 29; Length 1038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1.5 TIMAAATIWAATIWAWIAAAATYYYYAAAAAAA 750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITACTGATATGTATATATATTTTGTATAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20.9%; Score 38.6; Di
42.9%; Pred. No. 21;
Live 21; Mismatches
                                                                                               GSS; genome survey sequence.
Tetraodon nigroviridis
Tetraodon nigroviridis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:23402601
                                                                       AL166660.1 GI:7804398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 1038)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BH922535
BH922535.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0899143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best_Local
Matches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                      SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 7
BH922535
                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                              PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
```

ô

Gaps

```
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 10
AW001963
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AW292419
UI-H-BIZ-agw-h-08-0-UI.S1 NCI_CGAP_Sub4 Homo sapiens cDNA clone INGE:2725886 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.ihh.gov.

The sequence contained an oligo-dr track that was present in the oligonucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonsfide poly A tail. cDNA Library Preparation: M.B. Soares Lab Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/Libra at:

W.M.A.G.E. Consortium/Libra at:

W.M.A.D.C. Illn.gov/bbrp/Amage.html The following repetitive elements were found in this cDNA sequence: 1-30,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  952 TITITITITITATAWAGATTTTTAAAAAAWATAAAAAGRGGGGGGGAKTWTTWTWWW 1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    892 TITITITAAAAAAAAAAAAAAAAAAAAAAAAAAAATATATATTTTKGGRAWTTTRAGWITT 951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 392)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol type="mcNA"
/mol type="mcNA"
/mol type="mcNA"
/mol type="mcNA"
/clone="CSODIO09YC24"
/tissue type="McACBITA COT 25-NORWALIZED"
/clone lib="Homo sapiens FLACENTA COT 25-NORWALIZED"
/note="Ist strand cDNA was primed with a NotI-oligo(dT)
primer: Five prime end enriched, doubbe-strand cDNA was
primer: Five prime and enriched, doubbe-strand cDNA was
digested with Not I and cloned into the Not I and EcoR V
sites of the pCMVSPORT 6 vector. Library was normalized.
Invitrogen. This sequence belongs to sequence cluster 1433.r For more information about this cluster, see http://www.genoscope.cns.fr/ cgi.eht.cluster.cgi?eeq=CSOD1009BB12QP1kcluster=1433.r. Contact : Feng Liang Email : fliang@lifetech.com URL : http://fulllength.invitrogen.com/ InvitroGen Corporation 1600 Faraday Avenu Genoscope sequence ID : CSOD1009BB12QP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23 ITGITTGAGAAAGAAGAAGAACATAAAAATACCTTGTCTGTCATCAGACAGGGTATTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20.6%; Score 38.2; DB 13; Length 1201; 45.2%; Pred. No. 25; ive 16; Mismatches 69; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              143 TTACTGATATGTATAATATATTTGTATAAGAAAA 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              >AT_rich#Low_complexity
Seq_primer: M13 Forward
POLYA=Yes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AW292419.1 GI:6699055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 70; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AW292419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
AW292419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
```

g

ò

ò В \hat{c}

```
/lab host="line" included to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 09-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata, Vertebrata, Buteleostomi,
Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

[ (bases 1 to 461) | NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           461 bp mRNA linear ES1
W#82601.x1 Soares thymus NHFTh Homo sapiens cDNA clone
IMAGE:2513953 3', mRNA sequence.
AW001963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 37.6; DE
Pred. No. 50;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW001963.1 GI:5848879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.3%;
72.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TAG_TISSUE=1
TAG_LIB=NCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                253 AAGAAAAT 260
```

```
1. .467
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High quality sequence stop: 442.
Location/Qualifiers
db_xref="taxon:9606"
clone="IMAGE:5882595"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AI989386.1 GI:5836309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   210 AAGAAAAT 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AI989386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AI989386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                             Tunor Gene Index
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jose Mercuende
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
clone Distribution: Clone distribution information can be found
through the I.M.A.G.E. Consortium/Linia at: http://famage.lbl.gov
The following repetitive elements were found in this cDNA
sequence: 433-454, ART rich#Low_complexity (matched compliment)
Seg primer: M13 FORWARD
POLYA-Yes:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BQ000230
UI-H-DIO-avp-j-04-0-UI.81 NCI_CGAP_DIO Homo sapiens cDNA clone
IMAGE:5882595 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            111 AAAAAAAGGAATAAAAGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTAT 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                176 AAAGAGAGGAAACTAAGGTTGTCATTAAATGACAGATAAGTAAAAATAATTGCTTT 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
I (bases 1 to 46.)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                    This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information. Insert Length: 696 Std Error: 0.00 Seq primer: -40UP from Gibco High quality sequence stop: 448.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 9; Length 461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 20.3%; Score 37.6; DB 9; Length 46: Best Local Similarity 72.1%; Pred. No. 48; Matches 49; Conservative 0; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/mol_type="mRNA"
                                                                                                                                                        organism="Homo sapiens"
                                                                                                                                                                        /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:2513953"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
        Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ000230
BQ000230.1 GI:19725130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST.
Homo sapiens (human)
Homo sapiens
                                                                                                                                     .461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             236 AAGAAAT 243
                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
BQ000230/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
```

င် g ò 셤

```
/cione="inable:searcess"
/tissue="inable:searcess"
/dev_stage="nung Focal Fibrosis"
/dev_stage="Adult"
/dev_stage="Adult"
/lab_host="bluble"
/lab_host="bluble"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI CGAP_DIO"
/clone lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib="NCI lib=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                467 bp mRNA linear EST 08-SEP-1999
wt80e12.x1 Soares thymus MHTh Homo Bapiens cDNA clone
IMAGE:2513806 3', mRNA Bequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           111 AAAAAAAGGAATAAAAGGGGGGTTGACTATTTTACTGATATGTATATATTTGTAT 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   270 AAAGAGAAGAAACTAAGGTTGTCATTAAATGACAGATAAGTAAAAATTGCTTT 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. I (Dases 1 to 46).
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tumor Gene Index
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: Gapbs-remail.nib.gov
This clone is available royalty-free through LLNL; contact the
IMAGE Conscrtium (info@image.llnl.gov) for further information.
Seq primer: -40UP from Gibco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /ugull type="minor septembolic persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the persons of the perso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 12; Length 462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATACGCGGTC.
TAG TISSUE-lung with fibrosis
TAG_LIB-UI-H-DIO
TAG_SEQ-ATACGCGGTC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
20.3%; Score 37.6; Di
Best Local Similarity 72.1%; Pred. No. 48;
Matches 49; Conservative 0; Mismatches
```

ö

Gaps

; 0

238

ORIGIN

```
Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov

Tissue Procurement: Ash Alizadeh, John Byrd, M.D., Mike Grever,

Tissue Procurement: Ash Alizadeh, John Byrd, M.D., Mike Grever,

Tissue Procurement: Ash Alizadeh, John Byrd, M.D., Mike Grever,

M.D., Louis M. Staudt, M.D., Ph.D.

CDNA Library Preparation: M. Bento Scares, Ph.D.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Close distribution: NCI-CGAP close distribution information can be

found through the I.M.A.G.E. Consortium/LIML at:

www-bio.llnl.gov/bbrp/image/fmage.html

Insert Length: 685 Std Error: 0.00

Seq primmer: -40UP from Gibco

High quality sequence stop: 446.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .564
| organism="Homo sapiens"
| organism="Momo sapiens" |
| wol_type="manna" |
| / wol_type="manna" |
| / wol_type="manna" |
| / wol_type="manna" |
| / wol_type="manna" |
| / wol_tssue_type="b-cell, chronic lymphotic leukemia" |
| / wole="weator: privide to the colone lib="wole to privide to the colone lib="wole to the colone lib="wole to the colone lib="wole to the colone lib="wole to the colone lib="wole to the colone lib="wole to the colone lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wole to lib="wol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A1479617 SST 14-APR-1999 TRNA linear EST 14-APR-1999 TH 22b12.xl NCI_CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2158271 3',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo. I Chasea I to St. Norl-CAAP http://www.ncbi.nlm.nih.gov/ncicgap.
                                                                                                                                                       179 AAAGAGAGGAAACTAAGGTGGTCATTAAATGACAGATAAGTAAAAATAATTGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 9; Length 564;
                                    19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 20.3%; Score 37.6; DB
Best Local Similarity 72.1%; Pred. No. 45;
Matches 49; Conservative 0; Mismatches
   Pred. No. 47;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A1479617.1 GI:4372785
   ilarity 72.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233 AAGAAAAT 240
                                                                                                                                                                                                                                       171 AAGAAAAT 178
                                                                                                                                                                                                                                                                                                    AAGAAAAT 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence.
Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
AI479617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tunor Gene Index

Unpublished (1997)

Conteat: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov

Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.

Emmart-Buck, M.D., Ph.D.

CDNA Library Preparation: M. Bento Soares, Ph.D.

CDNA Library Preparation: M. Bento Soares, Ph.D.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.B. Consortium/LIML at:

www-bio.llnl.gov/bbrp/image/image.html

Insert Length: 701 Std Error: 0.00

Seq primer: -40UP from Gibco

High quality sequence stop: 465.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"

// mol_type="mRNN"

// db_xref="taxon:9606"

// db_xref="taxon:9606"

// db_xref="taxon:9606"

// db_xref="taxon:9606"

// db_bost="darcinoid"

// db_host="DH109"

// db_host="DH109"

// db_host="DH109"

// db_host="DH109"

// db_host="DH109"

// db_host="DH109"

// db_host="dorgan: lung; Vector: pT773D-Pac (Pharmacia) with a modified poly1inker; Plaemid bNA from the normalized library NCI_CGAP_Los was prepared, and as circles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1417991 and 1520904-1152439). Subtraction by Bento Soares and M. Fatima Bonaldo. "Subtraction by Bento
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AI697642 A75 bp mRNA linear EST 18-DEC-1999 was 5902.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:2341202 3',
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                 111 AAAAAAAGGAATAAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTGTAT 170
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. I (bases 1 to 475)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                .;
                                                                                                                                                                                                                                                                                                 Score 37.6; DB 9; Length 467;
Pred. No. 48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20.3%; Score 37.6; DB 9; Length 475;
                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                19;
                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AI697642.1 GI:4985542
                                                                                                                                                                                                                                                                                                    20.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence.
AI697642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        236 AAGAAAT 243
                                                                                                                                                                                                                                                                                                                                            Best Local Similarity
Matches 49; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
```

AUTHORS TITLE

REFERENCE

JOURNAL

FEATURES

ORIGIN

RESULT 13 AI697642

dd 8 g

à

ACCESSION VERSION KEYWORDS ô

Gaps .. 0

Indels

```
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Chordates; Catarrhini; Hominidae; Homo.

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

Mageyama, H. (20)

Ohira, M., Morohashi, A., Inuzuka, H., Shishikura, T., Kawamoto, T., Kageyama, H., Nakamura, Y., Isogai, E., Takayasu, H., Sakiyama, S., Suzuki, Y., Sugano, S., Goto, T., Sato, S. and Nakagawara, A.

Expression profiling and characterization of 4200 genes cloned from primary neuroblascomas: identification of 305 genes differentially expressed between favorable and unfavorable subsets

Oncogene 22 (35), 5525-5536 (2003)
                                  AU253100 700 bp mRNA. linear EST 27-AUG-2003 AU253100 human favorable neuroblastoma cDNA Homo sapiens cDNA clone AU253100 43', mRNA sequence. AU253100 GI:34321813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Akira Nakagawara

Contact: Akira Nakagawara

Division of Blochemistry
Chiba Cancer Center Research Institute

666-2 Nitona, Chuoh-ku, Chiba 260-8717, Japan

Tel: 81-43-265-4459

Email: akiranak@chiba-ccri.chuo.chiba.jp.

Location/Qualifiers

1. 700

/ organism="Hone sapiens"
/ mol type="mRNA"
/ db xref="taxon:9606"
/ clone="Nblastoma"
/ tissue type="neuroblastoma"
/ clone_lib="human favorable neuroblastoma cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 20.3%; Score 37.6; DB 9; Length 700; Best Local Similarity 72.1%; Pred. No. 41; Matches 49; Conservative 0; Mismatches 19; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Search completed: March 19, 2004, 03:16:12
Job time : 1842 secs
                                                                                                                                                                           Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            223 AAGAAAT 230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                171 AAGAAAT 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12934113
                                                                                                                                 VERSION
KEYWORDS
SOURCE
ORGANISM
                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
RESULT 15
AU253100
                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

us-09-834-271a-26.rnpb

```
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
```

March 19, 2004, 02:14:41 ; Search time 745.5 Seconds
(without alignments)
917.966 Million cell updates/sec 1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185 OM nucleic - nucleic search, using sw model IDENTITY NUC Gapopt 1.0 US-09-834-271A-26 185 Perfect score: Scoring table: Sequence: Run on:

Total number of hits satisfying chosen parameters: 2438257 segs, 1849576744 residues Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Published Applications NA:*

1: /cgn2_6/ptodata/1/pubpna/US07_PUBCCMB.seq:*
2: /cgn2_6/ptodata/1/pubpna/PCT_NEW_PUB.seq:*
3: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
4: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
5: /cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*
7: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*
8: /cgn2_6/ptodata/1/pubpna/US08_PUBCCMB.seq:*
9: /cgn2_6/ptodata/1/pubpna/US08_PUBCCMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/US09E_PUBCCMB.seq:*
11: /cgn2_6/ptodata/1/pubpna/US09E_PUBCCMB.seq:*
12: /cgn2_6/ptodata/1/pubpna/US09E_NEW_PUB.seq:*
13: /cgn2_6/ptodata/1/pubpna/US108_PUBCCMB.seq:*
14: /cgn2_6/ptodata/1/pubpna/US108_PUBCCMB.seq:*
15: /cgn2_6/ptodata/1/pubpna/US108_PUBCCMB.seq:*
16: /cgn2_6/ptodata/1/pubpna/US108_PUBCCMB.seq:*
17: /cgn2_6/ptodata/1/pubpna/US108_PUBCCMB.seq:*
18: /cgn2_6/ptodata/1/pubpna/US60_PUBCCMB.seq:*
19: /cgn2_6/ptodata/1/pubpna/US60_PUBCCMB.seq:*
11: /cgn2_6/ptodata/1/pubpna/US60_PUBCCMB.seq:*
18: /cgn2_6/ptodata/1/pubpna/US60_PUBCCMB.seq:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description	Sequence 26, Appl	Seguence 5, Appli	Sequence 27, Appl	Sequence 6, Appli	Sequence 25, Appl	Sequence 7, Appli	Sequence 17, Appl	Sequence 17, Appl	Sequence 18, Appl		Sequence 20, Appl	_	Seguence 58, Appl	Sequence 9, Appli	Sequence 9, Appli
ΩΙ	US-09-834-271A-26	US-10-406-025-5	US-09-834-271A-27	US-10-406-025-6	US-09-834-271A-25	US-10-406-025-7	US-10-344-231-17	US-10-363-332A-17	US-10-344-231-18	US-10-363-332A-18	US-10-344-231-20	US-10-363-332A-20	US-09-769-864-58	US-09-854-346-9	US-09-918-543-9
	10	14	10	14	10	74	12	75	15	12	12	12	o,	o.	σ
% Query Match Length DB	185	185	185	185	185	185	2166	2166	2267	2267	2588	2588	2084	2084	2084
% Query Match	100.0	100.0	99.1	99.1	96.5	96.5	86.3	86.3	86.3	86.3	86.3	86.3	84.1	84.1	84.1
Score	185	185	183.4	183.4	178.6	178.6	159.6	159.6	159.6	159.6	159.6	159.6	155.6	155.6	155.6
Result No.	1	7	ო	4	ĸ	9	7	00	60	10	11	12	13	14	15

16 155.6 84.1 2084 10 US-09-925-576C-9 18 155.6 84.1 2084 12 US-10-665-667-58 19 155.6 84.1 2084 12 US-10-664-667-58 19 155.6 84.1 2084 14 US-10-184-771-3 21 155.6 84.1 2084 14 US-10-186-042.3 22 85.2 51.5 13222 10 US-09-736-116-60 23 38.4 20.8 637 10 US-09-288-472-74-9 24 34 20.8 47.9 6877 10 US-09-384-271A-19 25 38.4 20.8 47.1 US-09-384-271A-19 26 27 37 6 20.3 374778 14 US-10-10-44-271A-19 27 37 20.0 367778 14 US-10-10-47-3-961-399 28 35 19.5 2888 19 US-10-073-961-399 29 36 19.5 2888 19 US-10-073-961-399 20 37 37 20.0 367778 14 US-10-125-961-126 31 35.6 19.2 2888 19 US-10-073-961-399 32 35.1 19.0 3673778 14 US-10-125-961-126 33 34.8 18.8 3673778 14 US-10-125-961-126 34 34.6 18.7 14147 12 US-10-121-74A-470 35 34.6 18.7 14147 12 US-10-121-74A-470 36 39 33.8 18.3 3 40.5 10 US-09-66-59-691-29 37 38.8 18.3 3 47.1 US-10-121-2841-1 38 18.3 18.3 3 47.1 US-10-212-481-1 39 18.3 18.3 18.3 18.3 19.3 10.3-12-312-441-1 42 33.6 18.2 18.5 827 15 US-10-027-632-15-336 43 33.6 18.2 18.5 827 15 US-10-027-633-145937 44 33.6 18.2 18.5 827 15 US-10-027-631-399
22222222222222222222222222222222222222
22222222222222222222222222222222222222
6 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
0000 0000 0

ALIGNMENTS

```
61 crercacacacacacacararrrrrarccrercacacrercccrercacacaracacaa 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CIGICALCAGACAGGGAAITITITATGCIGICCAGACTGTCCGCTGTGTAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 26, Application US/09834271A

Sequence 26, Application US/09834271A

PUBLICATION OF US20030170876A1

GENERAL INFORMATION:
APPLICANT: Widner, William
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Bacillus Cell
TITLE OF INVENTION: Bacillus Cell
TITLE OF INVENTION: Bacillus Cell
FILE REPERENCE: 3455.200-04-12

CURRENT APPLICATION NUMBER: US/09/834,271A

CURRENT FILING DATE: 2001-04-12

PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: 09/031,442

PRIOR PILING DATE: BARLIER PILING DATE: 1998-02-26

NUMBER: OF SEQ ID NOS: 33

SOFTWARE: FastSEQ for Windows Version 3.0

LENGTH: 185

"WORD IN 26

LENGTH: 185

"WORD IN 26

LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
100.0%; Score 185; DB 10; Length 185;
Best Local Similarity 100.0%; Pred. No. 1.3e-41;
Matches 185; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-834-271A-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      슝
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
```

ö

120

```
Sequence 6, Application US/10406025
Sequence 6, Application US/10406025
Sequence 6, Application No. US20030186380A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Thomas, Michael D.
APPLICANT: Thomas, Michael D.
APPLICANT: Sloma, Alan
TITLE OF INVENTION: activity
FILE REPERENCE: 10289.200-US
CURRENT APPLICATION NUMBER: US/10/406,025
CURRENT APPLICATION NUMBER: US 60/369,192
PRIOR APPLICATION NUMBER: US 60/369,192
PRIOR FILING DATE: 2002-04-01
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin version 3.2
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CIGICALCAGACAGGGIAITITITIAIGCIGICCAGACIGICGCIGIGIAAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 ATAAAGGGGGTTGACATTATTTACTGATATGTATAATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                    ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                            121 araaaggggggrigacarrarrirracrgarargrarararararrarraragaaaargg 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                  9
                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                    61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 14; Length 185;
                                                                               Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 183.4; DB 14; Length
Pred. No. 3.5e-41;
0; Mismatches 1; Indels
                                                                                                                          1; Indels
                                                                               Score 183.4; DB 10;
Pred. No. 3.5e-41;
                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
US-09-834-271A-25
Sequence 25, Application US/09834271A
; Publication No. US20030170876A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 99.5%;
Matches 184; Conservative
                                                                                 Query Match
Best Local Similarity 99.5%;
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                           181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA ORGANISM: Bacillus
; TYPE: DNA; ORGANISM: Bacillus
US-09-834-271A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
US-10-406-025-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-406-025-6
                                                                                                                                                                                                                                                                                               19
                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <del>Q</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                       ઠ
                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                      \dot{\delta}
                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                           슝
                                                                                                                                                                                                  Sequence 5, Application US/10406025
Publication No. US20030186380A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: No. US20030186380A1ozymes Biotech, Inc.
APPLICANT: Thomas, Michael D. APPLICANT: Sloma, Alan
TITLE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase TILE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase TILE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase TILE OF INVENTION: MUMBER: US/10/406,025
CURRENT FILING DATE: 2003-04-01
PRIOR APPLICATION NUMBER: US 60/369,192
PRIOR APPLICATION NUMBER: US 60/369,192
PRIOR APPLICATION NUMBER: US 60/369,192
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 27.7 Application US/09834271A

Sequence 27.7 Application US/09834271A

Publication No. US20030170876A1

GENERAL INFORMATION:

APPLICANT: Widner, William

APPLICANT: Thomas, Michael D.

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For Producing A polypeptide In a

TITLE OF INVENTION: Methods For US/09/258,377

PRIOR FILING DATE: 1999-02-26

PRIOR PELING DATE: EARLIER FILING DATE: 1998-02-26

PRIOR PELING DATE: EARLIER FILING DATE: 1998-02-26

NUMBER OF SEQ ID NOS: 33

SOF ID NO 27

LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 185; DB 14; Similarity 100.0%; Pred. No. 1.3e-41; 55; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 AGCTC 185
                                                                 181 AGCTC 185
                                                                                                          181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Simi
Matches 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-834-271A-27
                                                                                                                                                                       RESULT 2
US-10-406-025-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-406-025-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                           g
                                                                   ઠે
```

```
Sequence 17, Application US/10363332A

Sequence 17, Application US/10363332A

Publication No. US20040038375A1

GENERAL INFORMATION:

APPLICANT: Pedersen, Poul

APPLICANT: No. US20040038375A1regaard-Madsen, Mads

TITLE OF INVENTION: Method For Screening Highly Active Proteases and Inhibitors

FILE REFERENCE: 10800.204-US

CURRENT APPLICATION NUMBER: US/10/363,332A

CURRENT FILING DATE: 2003-05-27

NUMBER OF SEQ ID NOS: 20

SOFTWARE: Patentin version 3.2

SEQ ID NO 17

LENTH: 2166

LENTH: 2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                      121 ATAAAGGGGGGTTGACATTATTTTACTGATATGATAATATTAATTTTGTATAAAAATGG 180
                                                                                                                                121 ATAAAGGGGGGTTGTTATTTTACTGATATGTAAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73
                                            61 CIGICATCAGACAGGGIATITITIAIGCIGICCAGACIGICCGCIGIGIAAAAATAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14 TGCAATCGATTGTTTGAGAAAAAAAAAAAAAACATAAAAAATACCTTGTCATCATCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                                                                                                      Sequence 17, Application US/10344231
Publication No. US20040038845A1
REDICATION No. US20040038845A1
APPLICANT: Pedersen, Poul
APPLICANT: Roggen, Erwin Ludo
TITLE OF INVENTION: Improved production of proteases with inhibitors
FILE REFERENCE: 10064.204-US
CURRENT APPLICATION NUMBER: US/10/344,231
CURRENT PILING DATE: 2003-02-10
NUMBER OF SEQ ID NOS: 20
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
LENGTH: 2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12; Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       134 GACATTATTTACTGATATGTATAATATAATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 292 GTTATTATTTTACTGATATGTAAATATATAATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 159.6; DB 12;
Pred. No. 3.5e-34;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86.3%; Score 159.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , OTHER INFORMATION: Construct A US-10-363-332A-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 97.6%;
Matches 162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial
                                                                                                                                                                               181 AGCTC 185
                                                                                                                                                                                                                              AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 8
US-10-363-332A-17
                                                                                                                                                                                                                                                                                                                       -10-344-231-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-344-231-17
                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                  셤
                                                                                      ò
                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-406-025-7
Sequence 7, Application US/10406025
Sequence 7, Application US/10406025
Sequence 7, Application US/2030186380A1
GENERAL INFORMATION:
APPLICANT: Thomas, Michael D.
APPLICANT: Sloma, Michael D.
APPLICANT: Sloma, Alan
TITE OF INVENTION: Methods for producing secreted polypeptides having L-asparaginase
FILE REFERENCE: 10289.200-US
CURRENT APPLICATION NUMBER: US/10/406,025
CURRENT APPLICATION NUMBER: US/10/406,025
CURRENT FILING DATE: 2003-04-01
PRIOR FILING DATE: 2002-04-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 ATABAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 ATAAAGGGGGTTGTTATTATTTACTGATATGTAAATATAAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGAACCATAAAATACCTTGT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAGAAGAAGAACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
       APPLICANT: Widner, William
APPLICANT: Widner, William
APPLICANT: Widner, Milam
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Methods For Producing A polypeptide In a
TITLE OF INVENTION: Bacillus Cell
TITLE OF INVENTION: Bacillus Cell
FILE REFERRNCE: 5455.200-US
CURRENT FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: US/09/258,377
PRIOR PILING DATE: 1999-02-26
PRIOR PILING DATE: 1999-02-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FARLIER PILING DATE: 1998-02-26
NUMBER OF SEQ ID NOS: 33
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  °,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 14; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 178.6; DB 14;
Pred. No. 7.6e-40;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
96.5%; Score 178.6; DB 10
Best Local Similarity 97.8%; Pred. No. 7.6e-40;
Matches 181; Conservative 0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 97.8%;
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                          TYPE: DNA ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-834-271A-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-406-025-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 7
```

à 요 à g ઠે g à ઠ

73

```
232 degrafitititatecrereceaecrerececrereranananananananaeceeri 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         172 recaarcearrerreadaaaaaagaagaacaraaaaaracerrerererereagaca 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       232 dedratritritatigendrecadaendrecedendrahahahahahahahadadden 291
                                                                                                                                                               172 recaarcearrerreagaaaagaagaecaraaaaaracerrererereagaea
                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 20, Application US/10344231

Publication No. US20040038845A1

GENERAL INFORMATION:

APPLICANT: Rederson, Poul

TITLE OF INVENTION: Improved production of proteases with inhibitors

TITLE OF INVENTION: Improved production of proteases with inhibitors

FILE REPRESENCE: 10064.204-108

CURRENT APPLICATION NUBER: US/10/344,231

CURRENT PILING DATE: 2003-02-10

NUMBER OF SEQ ID NOS: 20

SOFTWARE: Patentin version 3.2

LENGTH: 2588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ·
0
                                                                                  .
0
                                      DB 12; Length 2267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 12; Length 2588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           134 GACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTTATTATTTACTGATATGTAAATATAATTTGTATAAGAAATG 337
                                                                                                                                                                                                                                                                                               134 GACATTATTTTACTGATATGTATAATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                          292 GTTATTATTATACTGATATGTAAAATATAATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 86.3%; Score 159.6; DB 12; Length Best Local Similarity 97.6%; Pred. No. 3.8e-34; Matches 162; Conservative 0; Mismatches 4; Indels
                                                                                  4; Indels
                                      Score 159.6; DB 12
Pred. No. 3.6e-34;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc feature
LOCATION: (2084)
OTHER INFORMATION: n is a, c, g, or t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      占
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-10-363-332A-20
Sequence 20, Application US/10363332A
; Publication No. US20040038375A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ď
                                      86.3%;
97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
OTHER INFORMATION: Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: misc feature
LOCATION: (2077)..(2077)
OTHER INFORMATION: n is a,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: (2070)..(2070)
OTHER INFORMATION: n is a,
                                         Query Match
Best Local Similarity 97.6
Matches 162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc feature LOCATION: (2070)..(2070
US-10-363-332A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-344-231-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                 q
                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 18, Application US/10363332A
PUblication No. US20040038375A1
GENERAL INFORMATION.
APPLICANT: Pedersen, Poul
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
APPLICANT: No. US20040038375A1regaard-Madsen, Mads
TITLE OF INVENTION: Method Por Screening Highly Active Proteases and Inhibitors
File Reference: 10080.204-US
CURRENT APPLICATION NUMBER: US/10/363,332A
CURRENT FILING DATE: 2003-05-27
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                             172 recearcearrerresegaaaseaagaagacearaaaarracerrererereagaca 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGGGGGGTT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            232 GGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGGGGGGTT 291
                                                               73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73
                                                                                                                                                                                                                                                                                                                                     RESULT 9
US-10-344-231-18
Squence 18, Application US/10344231
Squence 18, Application US/10344231
Squence 18, Application US/10344231
Squence 18, Application No. US20040038845A1
SPULICANT: Pedersen, Poul
APPLICANT: Roggen, Erwin Ludo
TITLE OF INVENTION: Improved production of proteases with inhibitors
FILE REPERBENCE: 10064-204-US
CURRENT APPLICATION NUMBER: US/10/344,231
CURRENT FILING DATE: 2003-02-10
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin version 3.2
SEQ ID NO 18
LENGTH: 2267
                                                               14 TGCAATCGATTGTTTGAGAAAAAAAAAAAACATAAAAATACCTTGTCTCATCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                      0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 12; Length 2267;
                                                                                                                                                                                                                                                                        292 GITATTATTITACTGATATGTAAATATATATTTGTATAAGAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        134 GACATTATTTACTGATATGTATAATATATTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292 GTTATTATTTTACTGATATGTAAATATATATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                   134 GACATTATTTACTGATATGTATATATATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Indels
                      4; Indels
  Pred. No. 3.5e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.6e-34;
                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 159.6;
Pred. No. 3.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: Construct B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 97.6%;
Matches 162; Conservative
  97.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION: Synthetic
Best Local Similarity 97.6
Matches 162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-363-332A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 18
LENGTH: 2267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-344-231-18
                                                               ò
                                                                                                      ద
                                                                                                                                               ò
                                                                                                                                                                                      g
                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        င်
```

ô

Gaps

; 0

```
78 ATTITITATIGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133 ATTITITATGCTGTCCAGACTGTCCGCTGTAAAAATAAGGAATAAAGGGGGGGTTGTTA 192
                                                                                                                                                                                                78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                  133 ATTITITATGCTGTCCAGACTGTCGCTGTGAAAAAAAAGGGAATAAAGGGGGGTTGTTA 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 9, Application US/09854346
; Sequence 9, Application US/09854346
; Patent No. US20020068352A1
; GRERRAL INFORMATION:
APPLICANT: Svendsen, Allan
; APPLICANT: Svendsen, Allan
; APPLICANT: Journal Christel Thea
; APPLICANT: Journal Saring Ronfeldt
; TILLE OF INVENTION: Alpha-amylase variants with altered 1,6 activity
; TILLE REPERBERS: 6140.200-US
; CURRENT FILING DATE: 2001-05-11
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: PatentIn version 3.1
; FERMINE TO SEC ID NOS: 15
; SOFTWARE: PatentIn version 3.1
                                                                                                                                  Sequence 9, Application US/09918543
Sequence 9, Application US/09918543
Parent No. US20020155574A1
GENERAL INFORMATION
APPLICANT: No. US20020155574A10zymes A/S
APPLICANT: Thisted, Thomas
APPLICANT: Kjacuniff, Soren
APPLICANT: Fuglsang, Claus Crone
APPLICANT: Fuglsang, Claus Crone
TITLE OF INTENTION: Alpha-amylase mutants with altered properties
FILE REPERENCE: 10062.200-US
CURRENT APPLICATION NUMBER: US/09/918,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

84.1%; Score 155.6; DB 9; Length 2084;
Best Local Similarity 97.5%; Pred. No. 4.5e-33;
Matches 158; Conservative 0; Mismatches 4; Indels 0;
   DB 9; Length 2084;
                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138 TTATTTTACTGATATGTATATATATTTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                           138 TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTATTTTACTGATATGATATATATTTGTATAAGAAATG 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        193 TTATTTTACTGATATGTAAAATATAATTTGTATAAGAAAATG 234
   Query Match 84.1%; Score 155.6; DB 9; Best Local Similarity 97.5%; Pred. No. 4.5e-33; Matches 158; Conservative 0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA ORGANISM: Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: CDS

COCATION: (343)..(1794)

COTHER INFORMATION: BAN

US-09-854-346-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 2084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 15
US-09-918-543-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-854-346-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        193
                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                      심
                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
APPLICANT: Pedersen, Poul Paper of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172 recharcearrerrigadahahahahahahahahaharkerrererererekan 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 12; Length 2588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 GACATTATTTTACTGATATGTATAATATATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTATTATTTTACTGATATGTAAATATATTTGTATAAGAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .8e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 86.3%; Score 159.6; Best Local Similarity 97.6%; Pred. No. 3.8e Matches 162; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Patent No. US2001039253A1

GENERAL INFORMATION:
APPLICANT: Svendeen, Allan
APPLICANT: Svendeen, Allan
APPLICANT: Andersen, Carsten
APPLICANT: Andersen, Carsten
APPLICANT: Missen, Torben U.
APPLICANT: Missen, Torben L.
APPLICANT: Missen, Torben L.
APPLICANT: Missen, Torben L.
APPLICANT: Kjacrulff, Soren
TITLE OF INVENTION: Alpha-Amulase Mutants
FILE REFRERENCE: 5388-120-015
CURRENT APPLICATION NUMBER: US/09/769,864
CURRENT FILING DATE: 2001-01-25
PRIOR PILING DATE: 1998-10-30
NUMBER OF SEQ ID NOS: 58
SOPTWARE: FastSEQ for Windows Version 3.0
SSEQ ID NO 58
LENGTH: 2084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:

NAME/KEY: misc feature

COCATION: (2077)..(2077)

OTHER INFORMATION: n is a, c, g, or t

FEATURE:

NAME/KEY: misc feature

COCATION: (2084)..(2084)

US-10-363-332A-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc feature
LOCATION: (2070)..(2070)
OTHER INFORMATION: n is a, c, g,
                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Construct FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:

NAME/KEY: CDS

; LOCATION: (343)...(1794)

US-09-769-864-58
                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-769-864-58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            74
                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
```

0; Gaps

Run on:

ĕ

```
@@@@@@@@@
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , ORGANISM: Bacillus subtilis
US-09-384-305-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 185; Conservative
                                                                                                                                                                                                                                                      640681
1511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTC 185
181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       н
 β
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \dot{\delta}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Appl
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                            March 19, 2004, 01:23:55; Search time 44 Seconds (without alignments) 2333.316 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 27, Sequence 27, Sequence 27, Sequence 27, Sequence 24, Sequence 24, Sequence 24, Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Sequence 3, Al Seque
                                                                                                                                                                                                           1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued Patents NA:*

1: /cgn2 6/ptodated2/ina/5A_COMB.seq:*
/cgn2 6/ptodated2/ina/5B_COMB.seq:*
3: /cgn2 6/ptodated2/ina/6A_COMB.seq:*
/cgn2 6/ptodated2/ina/6B_COMB.seq:*
/cgn2 6/ptodated2/ina/6B_COMB.seq:*
/cgn2 6/ptodated2/ina/PCTUS COMB.seq:*
6: /cgn2 6/ptodated2/ina/PcTUS COMB.seq:*
                  GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-384-305-21
US-09-258-377-26
US-09-258-377-27
US-09-258-377-27
US-09-258-377-27
US-09-258-377-27
US-09-258-377-27
US-08-67-27-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-24
US-08-459-967-34
US-08-182-893-3
US-08-182-893-3
US-09-182-893-3
US-09-182-893-3
US-09-182-893-3
US-09-183-412-58
US-09-183-412-58
US-09-636-252A-3
US-09-636-252A-3
US-09-636-252A-3
US-09-636-252A-3
US-09-636-252A-3
US-09-636-252A-3
                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                      682709 seqs, 277475446 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                               sw model
                                                                                                                                                                                                                                        IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                 nucleic search, using
                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                           US-09-834-271A-26
185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185
185
185
10216
162
162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                              Title:
Perfect score:
                                                                                   nucleic
                                                                                                                                                                                                               Seguence:
                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database
```

Result No.

```
Appl
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
     Sequence 15, Apsequence 15, Acquence 17, Acquence 37, Acquence 25, Acquence 10, Acquence 10, Acquence 26, Acquence 26, Acquence 26, Acquence 26, Acquence 26, Acquence 26, Acquence 26, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Acquence 1, Ac
US-09-537-168-5
US-09-34-305-15
US-09-314-305-15
US-08-972-479-37
US-08-972-661A-25
US-08-973-477-9
US-08-973-661A-25
US-08-973-661A-26
US-08-973-661A-26
US-08-972-661A-26
US-08-972-661A-26
US-08-972-661A-26
US-08-973-67-26
US-08-973-67-26
US-08-973-67-26
US-08-973-67-26
US-08-973-67-26
US-08-973-967-26
US-08-459-967-26
US-08-459-967-26
US-08-459-967-26
US-08-459-967-26
US-08-459-967-26
US-08-459-967-26
US-08-459-967-26
```

ALIGNMENTS

```
US-09-384-305-21

US-09-384-305-21

Sequence 21, Application US/09384305

Sequence 21, Application US/09384305

Sequence 21, Application US/09384305

GENERAL INFORMATION:

APPLICANT: Michael D. Thomas

APPLICANT: Kimberly N. Brown

TITLE OF INVENTION: Polypetides Having Pectin

TITLE OF INVENTION: Acetylesterase Activity And Nucleic Acids Encoding Same

FILE REPRENCE: 5952.000-US

CURRENT APPLICATION NUMBER US/09/384,305

CURRENT APPLICATION NUMBER US/09/384,305

CURRENT FILING DATE: 1999-08-26

NUMBER OF SEQ ID NOS: 25

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 21

LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATAATATTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 185; DB 3; Length 185; 100.0%; Pred. No. 9.7e-43; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 2
US-09-258-377-26
US-09-258-377-26
Sequence 26, Application US/09258377
Patent No. 6255076
GENERAL INFORMATION:
APPLICANT: Widner, William
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Methods For Producing A polypeptide In a
```

```
Sequence 20, Application US/09384305
Patent No. 6184029
GENERAL INFORMATION:
APPLICANT: Michael D. Thomas
APPLICANT: Kimberly M. Brown
TITLE OF INVENTION: Polypeptides Having Pectin
TITLE OF INVENTION: Acetyleaterase Activity And Nucleic Acids Encoding Same
FILE REFERENCE: 5952.000-US
CURRENT APPLICATION NUMBER: US/09/384,305
CURRENT FILING DATE: 1999-08-26
NUMBER OF SEQ ID NOS: 25
SOFTWARE: FastSEQ for Windows Version 3.0
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GGCCTTAAGGCCCTGCAATCGATTGTTTGAGAAAGAAGAAGACCATAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 96.5%; Score 178.6; DB 3; Length 185; Best Local Similarity 97.8%; Pred. No. 5.8e-41; Matches 181; Conservative 0; Mismatches 4; Indels 0;
                                                                            Sequence 27, Application US/09258377
Sequence 27, Application US/09258377
Patent No. 6255076
GENERAL INFORMATION:
APPLICANT: Widner, William
APPLICANT: Thomas, Michael D.
TITLE OF INVENTION: Bacillus Cell
FILE REFERENCE: 5455.200-US
CURRENT APPLICATION NUMBER: US/09/258,377
CURRENT FILING DATE: 1999-02-26
BARLIER FILING DATE: 1999-02-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 27
INDO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.1%; Score 183.4; DB 3; 99.5%; Pred. No. 2.7e-42; iive 0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; TYPE: DNA; ORGANISM: Bacillus subtilis
US-09-384-305-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCTC 185
    181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TYPE: DNA; ORGANISM: Bacillus
US-09-258-377-27
                                                                 RESULT 4
US-09-258-377-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 5
US-09-384-305-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 22, Application US/09384305
Sequence 22, Application US/09384305
Patent No. 6184028
GENERAL INFORMATION:
CENERAL INFORMATION:
APPLICANT: Michael D. Thomas
APPLICANT: Kimberly M. Brown
TITLE OF INVENTION: Polypeptides Having Pectin
TITLE OF INVENTION: Acctylesterase Activity And Nucleic Acids Encoding Same
FILE REFERENCE: 5952.000-US
CURRENT APPLICATION NUMBER: US/09/384,305
CURRENT FILING DATE: 1999-08-26
NUMBER OF SEC ID NOS: 25
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                            09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CTGTCATCAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATTATTTGTATAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                   1 GGCCTTAAGGGCCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 99.1%; Score 183.4; DB 3; Length 185; Best Local Similarity 99.5%; Pred. No. 2.7e-42; Matches 184; Conservative 0; Mismatches 1; Indels 0
                                                                                                                                                                                                                                                                                                Length 185;
                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                Query Match
100.0%; Score 185; DB 3;
Best Local Similarity 100.0%; Pred. No. 9.7e-43;
Matches 185; Conservative 0; Mismatches 0;
TITLE OF INVENTION: Bacillus Cell
FILE REFERENCE: 5455.200-02
CURRENT APPLICATION NUMBER: US/09/258,377
CURRENT FILING DATE: 1999-02-26
EARLIER APPLICATION NUMBER: 09/031,442
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 26
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TYPE: DNA
; ORGANISM: Bacillus subtilis
US-09-384-305-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 AGCTC 185
|||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 AGCTC 185
                                                                                                                                                                                                            TYPE: DNA
) ORGANISM: Bacillus
US-09-258-377-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 22
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                     ò
```

ô

Gaps

9

```
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-434-255-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                             121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                         121 ATAAAGGGGGGTTGTTATTTTTACTGATATGTAAATTATAATTTGTATAAGAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cretcarcacacacacararrrrrarecrerereascrerececrererasasasas 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12. ATAAAGGGGGTTGTTATTATTTTACTGATATGTAAAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E: No. 58828880 No. 5882888disk of No. 5882888th America, Inc. 405 Lexington Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGACGATAAAAATACCTTGT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                  Sequence 25, Application US/09258377

Sequence 25, Application US/09258377

Patent No. 6255076

GENERAL INFORMATION:

APPLICANT: Widner, William

APPLICANT: Honds, Michael D.

TITLE OF INVENTION: Bacillus Cell

TITLE OF INVENTION: Bacillus Cell

FILE REFERENCE: 5455.200-US

CURRENT FILICATION NUMBER: US/09/258,377

CURRENT FILICATION NUMBER: 09/031,442

EARLIER APPLICATION NUMBER: 09/031,442

EARLIER APPLICATION NUMBER: 09/031,442

EARLIER FILING DATE: 1998-02-26

NUMBER OF SEQ ID NOS: 33

SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/08875154
Patent No. 588288
Patent No. 588288
Patent No. 5882888
Patent No. 5882888
APPLICANT: Jorgensen, Streen Troels
TITLE OF INVENTION: DNA Integration By Transporation
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 58828880 No. 5882888disk of No. 5882
STREET: 405 Lexington Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 178.6; DB 3
Pred. No. 5.8e-41;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 97.8°
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCTC 185
                                                                                                                                                                                181 AGCTC 185
                                                                                                                                                                                                                181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
CORGANISM: Bacillus
US-09-258-377-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: N
                                                                                                                                                                                                                                                                                      -09-258-377-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 25
LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-875-154-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                   g
                                                                                                        à
                                                                                                                                         d
                                                                                                                                                                                ò
                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                    à
```

```
2356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2237 recaarcgarrefrreacaaaagaagaagaccaraaaaaraccrrerererereacca 2296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUDRESSEE: No. 56210890 No. 5621089disk of No. 5621089th America, Inc. STREET: 405 Lexington Avenue, 64th Floor CITY: New York STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2; Length 10216;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2357 GTTATTATTTTACTGATATGTAAATATATTATTGTATAAGAAATG 2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134 GACATTATTTTACTGATATGTATATATATTTTGTATAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/434,255
                                       COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOCTHWARE: FESTEEC for Windows Version 2.0
CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/875,154
FILING DATE: 17-UUL-1997
CLASSIFFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Lambling, Blias J
REGISTRATION NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
TELECHONE: 212-867-0123
TELECHONE: 212-867-0123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match

86.3%; Score 159.6; DB 2
Best Local Similarity 97.6%; Pred. No. 2.5e-35;
Matches 162; Conservative 0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 24, Application US/08434255
Patent No. 5621089
GENERAL INFORMATION:
APPLICANT: 310ma, Alan P.
APPLICANT: Outtrup, Helle
APPLICANT: Dambmann, Claus
APPLICANT: Asalyng, Dorrit
TITLE OF INVENTION: ALKALINE PROTEASE
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEBE: No. 56210899 No. 56210894is)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
ZIP: 10174-6401
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "pMOL553"
                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 1: SEQUENCE CHARACTERISTICS: LENGTH: 10216 base pairs TYPE: nucleic acid STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Agris Dr., Cheryl H.
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
```

```
SSEE: No. 56228500 No. 5622850disk of No. 5622850th America, Inc.
T: 405 Lexington Avenue, 64th Floor
New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 ATTITITATGCIGICCAGACIGICCGCIGIGIAAAAATAAGGAATAAAGGGGGGGTIGITA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 Arccafrotringagaaaaaaaaaaccafaaaaaraccriorcroficarcaacagggr
                                                                                                                                                                                                                                                                                                                                                                                 78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAAGGAATAAAGGGGGTTGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .
0
                                                                          Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 162;
                                                                                                                                                     4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           138 TTATTTTACTGATATGTATATATATTTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTATTTTACTGATATGTAAATATATTTGTATAAGAAATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:

WEDLIOM TYPE: RIOPPY disk
COMPUTER: IBM PPC compatible
OPERATING SYSTEM: PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,327
FILING DATE: 02-UUN-1995
CLASSIFICATION: 435
PRICE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE OF THE O
                                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 155.6; DB 1
Pred. No. 1.4e-34;
0; Mismatches 4
                                                                      Score 155.6; DB 1
Pred. No. 1.4e-34;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Sloma, Alan P.
APPLICANT: Outtrup, Helle
APPLICANT: Dandwann, Claus
APPLICANT: Dandwann, Claus
APPLICANT: Asalyng, Dorrit
TITLE OF INVENTION: ALKALINE PROTEASE
NUMBER OF SEQUENCES: 27
CORRESPONDENCES: 27
ADDRESSEE: No. 56228500 No. 5622850die
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 3764.400-US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 24, Application US/08460327
Patent No. 5622850
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELECOMMUNICATION INFORMATION TELEPHONE: 212-867-0123
                                                                          84.1%;
97.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 97.5%;
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 212-878-9655
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  162 base pairs nucleic acid
                                                                          Query Match
Best Local Similarity 97.5
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 4
CITY: New
STATE: Ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
US-08-460-327-24
US-08-459-967-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         78 ATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 56228410 No. 5622841disk of No. 5622841th America, Inc. STREET: 405 Lexington Avenue, 64th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 Arcentrictricadaaaaaaaaaaacaccaraaaaaraccrictrictricadacaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1; Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 Traititacigaraigraaahararariigraraagaaarg 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CUDULKY: USA

ZIP: 10174-6401

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DCS/MS-DCS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US_UN-1995
CLASSIFICATION: 435
PRIOR APPLICATION: 435
PRIOR APPLICATION: A35
PRIOR APPLICATION: A35
APPLICATION NUMBER: US_08/434,255
FILING DATE: 03-MN-1995
ATTING DATE: 310-MN-1995
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING DATE: 310-MN-1905
ATTING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .4e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 155.6;
Pred. No. 1.46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 24, Application US/0845967
Patent No. 5622841
GENERAL INFORMATION:
APPLICANT: Sloma, Alan P.
APPLICANT: Outtrup, Helle
APPLICANT: Dambmann, Claus
APPLICANT: Asslyng, Dorrit
TILLE OF INVENTION: ALKALINE PROTEASE
                                 REFERENCE/DOCKET NUMBER: 3764
TELECOMUNICATION INFORMATION:
TELEPHONE: 212-867-0123
TELEFAX: 212-878-9655
INFORMATION FOR SEQ ID NO: 24:
SEQUENCE CHARACTERISTICS:
LENGTH: 162 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
    34,086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 97.5%;
Matches 158; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
ENGER: 162 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 405 Lexis
CITY: New York
STATE: New York
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                          ,
US-08-434-255-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-459-967-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

```
NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , NAME/KEY:
, LOCATION:
US-08-720-899-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTITITIATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGGGGGTTGTTA 120
61 ATTTTTTATGCTGTCCAGACTGTCCGCTGTGAAAAATAAGGAATAAAGGGGGGGTTGTTA 120
                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: No. 56503260 No. 5650326diak of No. 5650326th America, Inc. STREET: 405 Lexington Avenue, 64th Floor CITY: New York STATE: New York COUNTRY: USA ZIP: 10174-6401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 97.5%; Pred. No. 1.4e-34;
Matches 158; Conservative 0; Mismatches 4; Indels 0
                                                                       121 TTATTTTTACTGATATGTAAATATATATTTGTATAAGAAATG 162
                                          138 TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    138 TTATTTTACTGATATGTATATATATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 Tratritacidarargraaarararrirgraraagaaarg 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER FELDABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: PROPY disk
COMPUTER: PROPY disk
COMPUTER: PROPY disk
COMPUTER: PROPY DISK
COMPUTER: PROPY DISK
COMPUTER: PACHLIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 08/459,871
FILING DATE: 02-MVN-1995
CLASSIFICATION NUMBER: US 08/434,255
FILING DATE: 03-MAY-1995
ATTORNEY AGENT INPORMATION:
NAME: AGIST INPORMATION:
NAME: AGIST INPORMATION:
NAME: AGIST NUMBER: 31.086
REFERENCATION NUMBER: 31.086
REFERENCE/DOCKET NUMBER: 3764.400-US
TELLEPHONE: 212-867-0123
TELLEPHONE: 212-867-0123
TELLEPHONE: 212-867-0123
TELLEPHONE: 212-867-0123
TELLEPHONE: 212-87-016
SEQUENCE CHARACTERISTICS:
LENGTH: 162 Dass pairs
TYPE: nucleic acid
TYPE: nucleic acid
TYPE: nucleic acid
                                                                                                                                                                                                                                         APPLICANT: Sloma, Alan P.
APPLICANT: Outtrup, Helle
APPLICANT: Dambmann, Claus
APPLICANT: Asslyng, Dorrit
TITLE OF INVENTION: ALKALINE PROTEASE
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
                                                                                                                                                                               Sequence 24, Application US/08459871
Patent No. 5650326
GENERAL INFORMATION:
APPLICANT: Sloma, Alan P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-08-720-899-3
; Sequence 3, Application US/08720899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-459-871-24
                                                                                                                                                           US-08-459-871-24
                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
```

```
patent No. 5753460

GENERAL INFORMATION:
APPLICANT: Bisgaard-Frantzen, Henrik
APPLICANT: Borchert, Torben Vedel
APPLICANT: Svendsen, Allan
APPLICANT: Thellersen, Marianne
APPLICANT: Thellersen, Marianne
APPLICANT: Van der Zee, Pia
TITLE OF INVENTION: AMYLASE VARIANTS
NUMBER OF SEQUENCES: 38
CORRESPENDENCE ADDRESS:
ADDRESSEE: No. 57534600 No. 5753460disk of No. 5753460th America, Inc.
STREET: Vark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73 Arcgairgirigagaaaagaagacaraaaaaaraccrogrogrogrogacagacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 2084;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tratritacrearateraaararateraraagaaare 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY 1984

ZIP: 10174-6401

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: PATENTIN DATA:
APPLICATION NUMBER: US/08/720,899
FILING DATE: 10-OCT-1996
CLASSIPICATION DATA:
APPLICATION NUMBER: US 08/343,804
FILING DATE: 22-NOV-1994
ATTORNEY/AGENT INFORMATION:
NAME: LOWNEY DI., KAYEN A.
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REDERMICA-DOCKET NUMBER: 31,274
RELERMICA-DOCKET NUMBER: 31,274
RELER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 155.6; DB 1;
Pred. No. 2.3e-34;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/08459610
Patent No. 5801043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 97.5%;
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sig_peptide
250..342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mat_peptide
343..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         250..1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-459-610-3
```

```
APPLICANT: BOLLDON, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Marianne
APPLICANT: Thalleresen, Marianne
APPLICANT: Thalleresen, Marianne
APPLICANT: Thalleresen
TITLE OF INVENTION: AMYLASE VARIANTS
TITLE OF INVENTION: AMYLASE VARIANTS
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5830837c No. 5830837th America, Inc.
STREET 405 Lexington Avenue, 64th Floor
CITY: New York
STATE: New York
TISA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78 ATTITITIATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73 Arcgarrgrrrgagaaaagaagaagaccaraaaaaraccrrgrcrcrcarcagacaggr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ·,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match

84.1%; Score 155.6; DB 2; Length 2084;
Best Local Similarity 97.5%; Pred. No. 2.3e-34;
Matches 158; Conservative 0; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138 TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     193 rrarrrracrdarargraaarrararrrgraraagaaarg 234
                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: USA

ZIF: 10174-6401

COMPUTER EDADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: DATE: PC-DOS/MS-DOS
SOFTWARD SYSTEM: PC-DOS/MS-DOS
SOFTWARD APPLICATION DATA:
APPLICATION NUMBER: US/08/343,804
FILING DATE: 22-NOV-1994
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: LOWING DY: KATEN A.
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REGISTRATION NUMBER: 31,274
REGISTRATION SEQ ID NO: 3:
FELLERAK: 212-897-0123
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 2084 base pairs
myDr: micleic acid
Bisgaard-Frantzen, Henrik
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 3, Application US/08687399; Patent No. 5928381
; GENERAL INFORMATION:
; APPLICANT: Toft, Annette H.
; APPLICANT: Marcher, Dorthe
; APPLICANT: Pedersen, Hanne H.
; APPLICANT: Nilsson, Thomas E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sig_peptide
250..342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mat_peptide 343..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
250..1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY:
LOCATION:
FEATURE:
NAME/KEY:
LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , NAME/KEY:
; LOCATION:
US-08-343-804-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-08-687-399-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
             APPLICANT: Biggard-Frantzew, ...
APPLICANT: Brochert, Torben Vedel
APPLICANT: Svendsen, Allan
APPLICANT: Svendsen, Allan
APPLICANT: Thellersen, Marianne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: Van der Zee, Pia anne
APPLICANT: V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 97.5%; Pred. No. 2.3e-34;
Matches 158; Conservative 0; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIATITIACTGATATGTATATATATTTGTATAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          193 TTATTTTACTGATATGTAAATATATTTGTATAAGAAATG 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/459,610 FILING DATE: 02-JUN-1995 CLASSIFICATION: 435 PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: US/08/343,804 FILING DATE: 22-NOV-1994 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
ZIP: 10174-6401
COMPUTER READBLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-343-804-3
; Sequence 3, Application US/08343804
; Patent No. 5830837
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: LOWING Dr., Karen A.
REGISTRATION NUMBER: 31,274
REFRENCE/DOCKET NUMBER: 4054
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-867-0123
TELEFAX: 212-878-9655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 2084 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sig_peptide
250..342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mat_peptide
343..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: CDS
LOCATION: 250..1794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , NAME/KEY:
; LOCATION:
US-08-459-610-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \stackrel{>}{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

us-09-834-271a-26.rni

```
TITLE OF INVENTION: A Combined Desizing and Bleaching
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 59283810 No. 5928381th America, Inc.
STREET: 405 Lexington Avenue, 64th Floor
CITY: New York
STATE: New York
CONVUTX: United States of America
COMPUTX: United States of America
COMPUTX: Beabals FORM:
MEDIUM TYPE: Floppy disk
COMPUTX: Declosive and an analysis of the compatible
OFFRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAPLICATION DATA:
APPLICATION NAMER: US/08/687,399
FILING DATE:
CLASSIFICATION: ONG
ATTORNEY/AGENT INFORMATION:
NAME: Lambiris, Ellas J.
REGISTRATION NENDER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 33,728
REFERENCE/DOCKET NUMBER: 31,728
TELEPHONE: 212-878-9655
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHAAACTERISTICS:
LENGTH: 2084 base pairs
TELEPHONE: 212-878-9655
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHAAACTERISTICS:
LENGTH: 2084 base pairs
TELEPHONE: SEQ ID NO: 3:
SEQUENCE CHAAACTERISTICS:
LENGTH: 2084 base pairs
MOLECULE TYPE: NOW (genomic)
FEATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATURE:
FRATU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   133 ATTITITATGCTCTCCAGACTGTCGCTGTGTAAAATAAGGAATAAAGGGGGGTTGTTA 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGAATAAAGGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Indels 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84.1%; Score 155.6; DB 2; Length 2084; 97.5%; Pred. No. 2.3e-34; Live 0; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 138 TIATITIACIGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         193 TTATTTTACTGATATGTAAATATAATTTGTATAAGAAATG 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search completed: March 19, 2004, 03:17:58 Job time : 46 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 97.54
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mat_peptide 343..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
250..1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY:

NAME/KEY:

LOCATION: 2

NAME/KEY:

LOCATION:

PEATURE:

NAME/KEY:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

LOCATION:

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
```

```
March 19, 2004, 00:21:10 ; Search time 215 Seconds (without alignments) 3655.426 Million cell updates/sec
                                                                                                                                                                                US-09-834-271A-26
185
1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                                                                                                                    6747726
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                               3373863 seqs, 2124099041 residues
                                                                        OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  first 45 summaries
                                                                                                                                                                                                                                                        IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     geneseqn1980s:*
geneseqn1990s:*
geneseqn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     geneseqn2003cs:*
geneseqn2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N_Geneseq_29Jan04:*
1: geneseqn1980s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqn2003bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geneseqn2001bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               geneseqn2001as:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    geneseqn2003as:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   geneseqn2002s:*
                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
Perfect score:
                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database :
                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                           Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Resu

20046 Bacill 88067 Bacill 99681 Bacill 99681 Bacill 17596 Wild t 88484 Bacill 18484 Bacill 18484 Bacill 18684 Bacill 18684 Bacill 18681 Bacill	שיים ספכי
00000000000000000000000000000000000000	AAZZ3330
H W W W W W W W W W W W W W W W W W W W	v
00000000000000000000000000000000000000	7
	-
\$	7
11 11 11 11 11 11 11 11 11 11 11 11 11	n n
4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ֆ Մ
υυ	

ALIGNMENTS

Tandem promoter; consensus promoter; enzyme production; hormone; amyQ; antibody; reporter; marker gene; cell regulation; alpha-amylase; ss. B. amyloliquefaciens amyQ promoter DNA #1. (NOVO) NOVO NORDISK BIOTECH INC. Thomas MD; AAZ23323 standard; DNA; 185 BP 99WO-US004360. 98US-00031442. Bacillus amyloliquefaciens. 06-DEC-1999. (first entry) Widner W, Sloma A, WPI; 1999-561370/47. WO9943835-A2. 26-FEB-1999; 26-FEB-1998; 02-SEP-1999. AAZ23323;

Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.

Claim 44; Page 90; 90pp; English.

This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly hererologous proteins, particularly enzymes (specifically serine protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus amyloliquefaciens alpha-amylase amyQ promoter which is used to describe the method of the

9

d

셤

ઠે

a

8

셤

ò

```
ATAAAGGGGGGTTGACATTATTTACTGATATGTATAAATATTTGTATAAGAAAATGG 180
                                                                                                                                   Bacillus cell; tandem promoter; consensus promoter; mutant; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Bach promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem promoter comprises amy promoter, amy promoter, april promoter, cryllib promoter or subtilisin Carlaberg gene promoter. The consensus promoter of the amy promoter, any promoter, april promoter of the amy promoter, any promoter, april promoter or subtilisin Carlaberg gene promoter.
                                                GGCCTTAAGGGCCTCCAATCGATTGTTTGAGAAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                crercarcadadagararrrrrardererecadacrerececrereraraaaaaaaaa
Producing a polypeptide in a Bacillus strain comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 18; Col 43-44; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag≈ c
replace(156, A)
/*tag= d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ē
                                                                                                                                                                                                                                                                                                     멾.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00258377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          replace (116,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          replace (136,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          replace (135,
                                                                                                                                                                                                                                                                                                     AAD09923 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Widner W, Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-440518/47.
                                                                                                                                                                                     181 AGCTC 185
                                                                                                                                                                                                                     AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US6255076-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                       12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic.
                                                                                                                                                                                                                                                                                                                                       AAD09923;
                     н
                                                                                   61
                                                                                                                     121
                                                                                                                                                                                                                     181
                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mutation
                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                         원
                                                                                                                     ð
                                                                                                                                                  셤
                                                                                                                                                                                   ò
                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                     120
                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to Bacillus subtilis pectin acetylesterase protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                       9
                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                                       GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACATAAAAATACCTTGT
                                                                                                                                              crercarcagacagagararrrrrargcrercagacrercegergraraaaaaaaagaa
                                                                                                                                                                                                                                                         ATAAAGGGGGGTTGACATTATTTTACTGATATGTATATAATATTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 185; DB 4; Length 185; 100.0%; Pred. No. 1.6e-41;
                                                       Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 185 BP; 63 A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                     A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pectin acetylesterase; degrade; plant cell wall; ss.
                                                                                         ô
                                                   100.0%; Score 185; DB 2;
100.0%; Pred. No. 1.6e-41;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sxample 9; Col 43-44; 35pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NOVO ) NOVO NORDISK BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                         AAF62646 standard; DNA; 185 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-00384305.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-00384305,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 185; Conservative
                                                                       Local Similarity 100. es 185; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Consensus amyQ promoter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brown KM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-190946/19.
                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                           AGCTC 185
                                                                                                                                                                                                                                                                                                                                                           AGCTC 185
                        BP;
                        Sequence 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Thomas MD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cell walls
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAF62646;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local &
                                                                                                                                                                                       61
                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                         181
                                                       Query Match
                                                                         Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                             AAF62646
```

Ø

δ

the

us-09-834-271a-26.rng

```
alpha-amylase amyQ promoter which is used to describe the
                                   Sequence 185 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Unidentified
                                                                                                                                                                                                                                                                                                                                                                        03-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-FEB-2001.
                                                                                 Matches 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas MD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cell walls
               invention
                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                 AAF62647;
                                                                                                                                                   61
                                                                                                                                                                                                                                             181
                                                         Query Match
Best Local (
                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                    RESULT 5
                                                                                                                                                                                                                                                                                                                            ន្តដ្ឋនូ
                                                                                                                           셤
                                                                                                                                                  ò
                                                                                                                                                                       쉱
                                                                                                                                                                                               ð
                                                                                                                                                                                                                    심
                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                 g
                                                                                                       ઠે
                                                                                                                 o,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly enzymes (specifically serine protesse, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, resporters etc. The specified promoters provide increased expression of the sequence which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus amyloliquefaciens
                                                                                                                                                                                                            120
                                                                                                                                                                                                                                  180
                                                                                                                                                                                    CIGICAICAGACAGGGIAITITITAIGCIGICCAGACIGICCGCIGIGIAAAAAAAAGGA 120
                                                                                                                                                                                                                                                      09
                                                                                                                                                              09
                                                                                                                                                                                                                                                                                                                                                                                                                                                       amyQ;
Bs.
                                                                                                                                                                                                                                 ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATAATTTGTATAAGAAAATGG
region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is Bacillus amyloliquefaciens alpha-amylase (amy) consensus mutated promoter, used in the exemplification of the invention
                                                                                                                                                                                                           1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAGACCATAAAATACCTTGT
                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                      promoter; enzyme production; hormone; gene; cell regulation; alpha-amylase;
                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.
                                                                                       Score 185, DB 4; Length 185; Pred. No. 1.6e-41; 0; Mismatches 0; Indels (
                                                                   Sequence 185 BP; 63 A; 25 C; 42 G; 55 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                 B. amyloliquefaciens amyQ promoter DNA #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 44; Page 90; 90pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                              AAZ23324 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Thomas MD;
                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-US004360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tandem promoter; consensus antibody; reporter; marker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                        Query Match
Best Local Similarity 100.
Matches 185; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999~561370/47
                                                                                                                                                                                                                                                                              AGCTC 185
                                                                                                                                                                                                                                                                                                    185
                                                                                                                                                                                                                                                                                                   AGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9943835-A2
                                                                                                                                                                                                                                                                                                                                                                                                           06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3
                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                    61
                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                  AAZ23324;
                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Widner
                                                                                                                                                                                                                                                                                                                                                 AAZ23324
                                                                                                                                                                                                                                                                                                                                                                        88888888
                                                                                                                                                                                                                                                      g
                                                                                                                                        ઠ
                                                                                                                                                            셤
                                                                                                                                                                                   ò
                                                                                                                                                                                                        면
                                                                                                                                                                                                                                  ਨੇ
                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                    유
```

```
ö
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to Bacillus subtilis pectin acetylesterase protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                                                                                                                                                                                                                                                     <u> ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATTTTGTATAAGAAAATGG</u>
                                                                                                                                                                                                                                                                                                     61 crercarcadadadegenarrirriranecrercadacrercecerereradadadadade
                                                                                                                                                                                                      1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                        1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
method of
                                                                                                                                                              ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 183.4; DB 4; Length 185; Pred. No. 4.4e-41; 0; Mismatches 1; Indels 0.
                                                                                                                Length
                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 185 BP; 62 A; 25 C; 42 G; 56 T; 0 U; 0 Other;
                                                                   62 A; 25 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pectin acetylesterase; degrade; plant cell wall; ss.
                                                                                                                .;
?
                                                                                                              Score 183.4; DB 2
Pred. No. 4.4e-41;
                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 9; Col 43-44; 35pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVO ) NOVO NORDISK BIOTECH INC.
                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                照.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 99.5%;
Matches 184; Conservative 0
                                                                                                                99.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAF62647 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Consensus amyQ promoter #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Brown KM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-190946/19.
                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTC 185
```

09

Gaps

..

```
ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATATTTGTATAAGAAAATGG 180
promoter comprises amyL promoter, amyQ promoter, aprH promoter, cryIIIA promoter or subtilisin Carlsberg gene promoter. The consensus promoters of the amyL promoter, amyQ promoter, aprH promoter, cryIIIA promoter or subtilisin Carlsberg gene promoter have the sequence TrGACA for the -35 region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus mutated promoter, used in the exemplification of the invention
                                                                                                                                                                                                                                                                                                                       CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                               crercarcadacadedrarrrrrrardcrercredacrerccecreraraaaaaradda
                                                                                                                                                                                                                                                          1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                           99.1%; Score 183.4; DB 4; Length 185; 99.5%; Pred. No. 4.4e-41;
                                                                                                                                                                                                                           Indels
                                                                                                                                                            Sequence 185 BP; 62 A; 25 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amyQ promoter consensus DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Fig 21; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Thomas MD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99WO-US004360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAZ23325 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                 Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-561370/47
                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacillus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9943835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bacillus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Widner W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAZ23325;
                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAZ23325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
        25555555555
                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           replace (156, A)
/*tag= c
/note= "In column 26, a T to A mutation was said to occur at position 116 but no such mutation was found in the sequence shown in the sequence listing of the specification"
                                                                                     120
                                                                                                                                                    180
                                                                                                                                                                   120
                         9
                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       фs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Each promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem
                                                                                                                CIGICALCAGGAGAGATTTTTAGCIGICCAGACTGICCGCIGIGIAAAAAATAGGA
                                                                                      ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                          Bacillus amyloliquefaciens alpha-amylase (amyQ) consensus promoter #2.
                                                      GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus cell; tandem promoter; consensus promoter; mutant; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Producing a polypeptide in a Bacillus strain comprises cultivating Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 18; Col 43-44; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      replace (135, T)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     replace (136, T)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thomas MD
                                                                                                                                                                                                                                                                                                                               AAD09924 standard; DNA; 185 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NOVO ) NOVOZYMES BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-00258377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-440518/47.
                                                                                                                                                                                                                  AGCIC 185
                                                                                                                                                                                                                                                 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6255076-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                             12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Widner W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                        61
                                                                                                                                                     121
                                                                                                                     61
                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mutation
                                                                                                                                                                                                                                                                                                                                             원
                                                                                        ò
                                                                                                                 원
                                                                                                                                                     à
                                                                                                                                                                                  d
```

```
This invention describes a novel method for the production of a polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly enzymes (specifically serine protease, maltogenic alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence
                                                                             Tandem promoter; consensus promoter; enzyme production; hormone; antibody; reporter; marker gene; cell regulation; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.
```

```
ö
                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              116
/*teg= a
/*teg= "Base T is found at this location in the sequence
shown in the sequence listing of the specification
(AAD09922)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacillus cell; tandem promoter; consensus promoter; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amylase; ds.
which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents the consensus sequence of Bacillus sp. alpha-amylase amyQ promoter which is used to describe the
                                                                                                                                                                                                                      GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                   GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                            crercarcagacaggerarrrrrargerereceaecrerececrereraaaaagaa
                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Producing a polypeptide in a Bacillus strain comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacillus amyloliquefaciens amyQ promoter, alternative version.
                                                                                                                  Length 185;
                                                                                                                                          Indela
                                                                                        Sequence 185 BP; 63 A; 24 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                DB 2;
                                                                                                                                          3,
                                                                                                              Score 180.2; DB 2
Pred. No. 3.3e-40;
); Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 18; Fig 21; 54pp; English
                                                                                                                                         .0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Thomas MD;
                                                                                                                                                                                                                                                                                                                                                                                                                 AAD09931 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-00258377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-00031442.
                                                                                                                97.4%;
98.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amyloliquefaciens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                         Conservative
                                                             method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-440518/47.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sloma A,
                                                                                                           Query Match
Best Local Similarity
Watches 182; Consern
                                                                                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                                         AGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JS6255076-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Widner W,
                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                          AAD09931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                    8888888888
                                                                                                                                                                   à
                                                                                                                                                                                         g
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                 g
```

```
The present invention relates to a method for producing a polypeptide, comparises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conducive for the production of the polypeptide. Each promoter sequence of the tandem promoter is operably inveded to a nucleic acid sequence encoding the polypeptide. The tandem promoter comprises anyl promoter, anyl promoter. The consensus promoters or subtilisin Carlaberg gene promoter. The consensus promoter or subtilisin Carlaberg gene promoter, aptH promoter, cryllla promoter or subtilisin Carlaberg gene promoter have the sequence TrdAcA for the -35 region and TATAAT for the -10 region. The method further comprises contained the polypeptide from the cultivation medium. The method is useful for producing a polypeptide in a Bacillus strain. The present sequence is an alternative of Bacillus amyloliquefaciens alpha-amylase (amyl) promoter, used in the exemplification of the invention. Note: This sequence is stated as being the same as that shown as SEQ ID NO 25 (AADD9922) in column 43-44 of the specification. However the sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 ATABAGGGGGGTTGACATTATTTACTGATATGTATATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 ATAAAGGGGGTTGTTATTTTTACTGATATGTAAATATATTTTGTATAAGAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CIGICATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAGAAGAAGAAGAACAATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tandem promoter; consensus promoter; enzyme production; hormone; antibody; reporter; marker gene; cell regulation; alpha-amylase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Production of polypeptide in Bacillus using specific promoters, particularly for producing enzymes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 185 BP; 63 A; 24 C; 42 G; 56 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 180.2; DB 4
Pred. No. 3.3e-40;
0; Mismatches 3

 B. thuringiensis wild-type amyQ promoter DNA.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         폆.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Thomas MD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US004360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-00031442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (NOVO ) NOVO NORDISK BIOTECH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             differ by at position 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 98.4
Matches 182; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAZ23322 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacillus thuringiensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Widner W, Sloma A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1999-561370/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9943835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAZ23322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAZ23322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SE
```

```
The present invention relates to Bacillus subtilis pectin acetylesterase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 18; Col 43-44; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                          AAD09922 standard; DNA; 185 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Thomas MD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (NOVO ) NOVOZYMES BIOTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-00258377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-00031442.
                                                                                                             96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus amyloliquefaciens.
                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                      Query Match
Best Local Similarity 97.89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-440518/47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sloma A,
                                                                                                                                                                                                                                                                                  AGCTC 185
                                                                                                                                                                                                                                                                                                        185
                                                                                                                                                                                                                                                                                                         AGCIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US6255076-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-JUL-2001.
                                                                                                                                                                                                                                                                                                                                                                                                   12-SEP-2001
                                                                       cell walls
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Widner W,
                                                                                                                                                                                                                                                                                                                                                                                AAD09922;
                                                                                                                                                                           -
                                                                                                                                                                                                 61
                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                       RESULT 11
          88888888888
                                                                                                                                                                           g
                                                                                                                                                                                                 ò
                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                   ठे
                                                                                                                                                                                                                      ö
                                                 polypeptide in Bacillus using specific tandem or consensus promoters. The method is used to produce homologous or particularly heterologous proteins, particularly energia proteins, particularly energy series proteins, particularly energy series proteins proteins alpha-amylase and pullulanase), but also hormones, antibodies, reporters etc. The specified promoters provide increased expression of the sequence which encodes the polypeptide of the invention. After incorporation of the nucleic acid construct of the invention, any marker gene may be deleted, resulting in a cell that is preferred for environmental and regulatory regions. This sequence represents a Bacillus thuringianals alpha-amylase amyQ promoter which is used to describe the method of the
                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel isolated polypeptide having pectin acetylesterase activity useful for degrading pectic substances and in degradation or modification of acetylated pectins and plant cell walls.
                                                                                                                                                                                                                                                                                                                                            ATAAAGGGGGGTTGTTATTATTATTATATATATAAAATATAAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                         CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAATAGGA
                                                                                                                                                                                                                                                                                                                             ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                    CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA
                                                                                                                                                                                                                                           Gaps
                                        This invention describes a novel method for the production of a
                                                                                                                                                                                                                      ..
0
                                                                                                                                                                                                 DB 2; Length 185;
                                                                                                                                                                                                                      Indels
                                                                                                                                                                            Seguence 185 BP; 62 A; 24 C; 42 G; 57 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pectin acetylesterase; degrade; plant cell wall;
                                                                                                                                                                                                            .2e-40;
                                                                                                                                                                                                 Score 178.6;
Pred. No. 9.26
0; Mismatches
                    Disclosure; Page 90; 90pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NOVO ) NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 9; Fig 9; 35pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                              琚.
                                                                                                                                                                                                96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99US-00384305
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAF62645 standard; DNA; 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wild type amyQ promoter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Brown KM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-190946/19.
                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                       AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                          AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JS6184028-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-MAY-2001
                                                                                                                                                                                                                    Matches 181;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Thomas MD,
                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAF62645;
                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                   \delta
                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                      쉱
```

```
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              crercarcadacadedrarrrrrrardcrerccadacrerccecrergraaaaaradda 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 ATAAAGGGGGTTGTTATTTTTACTGATATGTAAAATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
protein. The invention is useful for degrading a pectic substance. It is also useful for degrading soluble and insoluble pectins with varying degrees of esterification, clarification etc. The protein may be used alone or in combination with other enzymes for the degradation or modification of acetylated pectins, degradation or modification of plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus cell; tandem promoter; consensus promoter; aprH promoter; polypeptide production; amyL promoter; amyQ promoter; aprH promoter; cryIIIA promoter; subtilisin Carlsberg gene promoter; alpha-amyLase; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention relates to a method for producing a polypeptide, comprises cultivating a Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters. The Bacillus is cultivated in a medium conductive for the production of the polypeptide. Each promoter sequence of the tandem promoter is operably linked to a nucleic acid sequence encoding the polypeptide. The tandem
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATAAAGGGGGGTTGACATTATTTACTGATATGTATAATATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Producing a polypeptide in a Bacillus strain comprises cultivating Bacillus cell, which contains a nucleic acid construct comprising a tandem promoter and consensus promoters.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                      4; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus amyloliquefaciens alpha-amylase (amyQ) promoter.
                                                                                                                                                                                                                                                                                                                      Sequence 185 BP; 62 A; 24 C; 42 G; 57 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                      Score 178.6; DB 4
Pred. No. 9.2e-40;
0; Mismatches 4
```

```
28-FEB-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacillus sp
Hordeum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                        134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABL40498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
   ď
                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Screening protease/protease inhibitor gene library for gene encoding the same, by constructing host cell having the gene, cultivating cell, dissociating complex formed between them, selecting protein and isolating
                                                                                                                                                                                                                                                  CTGTCATCAGACAGGGTATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA 120
                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                            ATAAAGGGGGGTTGACATTTTTACTGATATGTATAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protease; screening; barley; chymotrypsin inhibitor; CI-2A; laundry; detergent industry; dishwash; fabric softener; subtilisin 309; savinase; chimeric; ds.
promoter comprises amyL promoter, amyQ promoter, aprH promoter, crylIIA promoter or subtilisin Carlsberg gene promoter. The consensus promoters of the amyL promoter, amyQ promoter, aprH promoter, crylIIA promoter or subtilisin Carlsberg gene promoter have the sequence TIGACA for the -35 region and TATAAT for the -10 region. The method further comprises isolating the polypeptide from the cultivation medium. The method is sequence is Bacillus amyloliquefaciens alpha-amylase (amyQ) promoter, used in the exemplification of the invention. Note: This sequence is stated as being the same as that shown as SEQ ID NO 25 (AAD09931) in figure 21 of the specification. However the sequences differ by at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C-terminal Subtilisin 309-CI-2A fusion protein encoding construct A DNA
                                                                                                                                                                                                                             GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAGAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                      crercarcagacagararrrrrargerarcagacrercagacreraraaaaaraaga
                                                                                                                                                                                                         GGCCTTAAAGGGCCTGCAATCGATTGTTTGAGAAAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                    Gaps
                                                                                                                                                                                    ..
                                                                                                                                                                DB 4; Length 185;
                                                                                                                                                                                     Indels
                                                                                                                                         Sequence 185 BP; 62 A; 24 C; 42 G; 57 T; 0 U; 0 Other;
                                                                                                                                                                                     4,
                                                                                                                                                             Score 178.6; DB 4
Pred. No. 9.2e-40;
0; Mismatches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Σ
                                                                                                                                                                                                                                                                                                                                                                                                                AAD34433 standard; DNA; 2166 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Norregaard-Madsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-JUL-2001; 2001WO-DK000503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-AUG-2000; 2000DK-00001273.
                                                                                                                                                              Ouery Match 96.5%;
Best Local Similarity 97.8%;
Matches 181; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (NOVO ) NOVOZYMES AS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-329776/36.
                                                                                                                                                                                                                                                                                                                                        AGCTC 185
                                                                                                                                                                                                                                                                                                                                                            AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hordeum sp.
Bacillus lentus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200218588-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pedersen PE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-AUG-2003
16-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-MAR-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD34433;
                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                            RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                        AAD34433
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                           셤
```

```
The invention relates to a method for screening a protease/protease inhibitor gene library for a gene encoding a protease of interest. The method comprises introducing a first special protease of interest. The method comprises introducing a first special protease gene library and a second gene encoding a protease inhibitor into a host cell; wherein the cell expresses the first and the second genes to produce a complex of a protease and the inhibitor; dissociating the inhibitor from the complex and selecting the protease of interest and isolating the encoding gene. A complex may be used for a number of industrial applications, in particular within the detergent industry, thus, relates to a cleaning or detergent composition, or preferably a laundry or dishwash composition comprising the complex, where hand or machine laundry detergent composition including a laundry additive composition, or be formulated as a detergent composition for use in general household hard surface cleaning operations or be formulated for hand or machine dish washing operations. The present composition is a construct encoding a fusion protein containing cterminal region of subtilisin 309 (savinase) and barley chymotrypsin inhibitor cregion of subtilisin 309 (savinase) and barley chymotrypsin inhibitor cregion creams in the invention. (Updated on 29-AUG-2003 to standardise
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      232 ederatitititatgererecedaergreeegerererahahahahahahahahaegeegett 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                172 IGCAATCGATTGTTTGAGAAAGAAGAAGACCATAAAAATACCTTGTCTCATCAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protease; allergenicity; detergent; subtilase; Sl1; Sl2; additive; protease inhibitor; barley; chymotrypsin; Cl-2A; fusion protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 6; Length 2166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GACATTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 Grrarrarriacridarardraaararaarricraraadaaard 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2166 BP; 610 A; 442 C; 582 G; 532 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        construct A comprising Savinase-CI-2A fusion sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 159.6; DB 6
Pred. No. 2.8e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
Example 1; Page 47-48; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protease inhibitor; barley; chymot:
subtilisin; savinase; apr gene; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein used in the invention. field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABL40498 standard; DNA; 2166 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-JUL-2001; 2001WO-DK000479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000DK-00001233.
2000US-0227501P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 97.6%;
Matches 162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NOVO ) NOVOZYMES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200216619-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-AUG-2000;
24-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-JUN-2002
```

```
21-AUG-2000; 2000DK-00001233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
ઠ
                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                               231
                                                                                                                                                                                                                                                                                                                    133
                                                                                                                                                                                                                                                                                                                                       232 eegrarrrrrangcrerccagacrerccecrerchaaaaaraaggaaraaggeegerr 291
                                                                                     The invention provides a method for producing a protease-inhibitor complex with reduced allergenicity for use in detergents. The method involves (a) constructing a fusion polynucleotide sequence in frame, the sequence comprising a first gene encoding a protease (preferably a subtilase $11 or $12) and a second gene encoding a protease inhibitor; (b) introducing the sequence into a host cell; and (c) cultivating the host cell expresses the sequence an produces a non-covalently linked complex of the protease and the inhibitor. The protease—inhibitor complex produced by the method may be used as an nucleotide sequence of a DNA construct comprising the savinase-CI-2A
                                                                                                                                                                                                                                                                           73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protease; screening; barley; chymotrypsin inhibitor; CI-2A; laundry; detergent industry; dishwash; fabric softener; subtilisin 309; savinase; chimeric; ds.
                                                                                                                                                                                                                                                                                               Subtilisin 309-CI-2A transcriptional product encoding construct B DNA
                                      Producing protease-inhibitor compositions with reduced allergenicity, stability and activity for use in detergent compositions.
                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                               Score 159.6; DB 6; Length 2166; Pred. No. 2.8e-34; 0; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                           134 GACATTATTTTACTGATATGTATATATATTTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                              GTTATTATTATTACTGATATGTAAATATAATTTGTATAAGAAAATG 337
                                                                                                                                                                                                                Sequence 2166 BP; 610 A; 442 C; 582 G; 532 T; 0 U; 0 Other;
                                                                      Example 1; Page 45-46; 52pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pedersen PE, Norregaard-Madsen M;
                                                                                                                                                                                                                                                                                                                                                                                                                                   ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-JUL-2001; 2001WO-DK000503.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-AUG-2000; 2000DK-00001273.
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAD34434 standard; DNA; 2267
                                                                                                                                                                                                                                    86.3%;
97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (revised)
(first entry)
                                                                                                                                                                                                                                                          Matches 162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (NOVO ) NOVOZYMES AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-329776/36.
                    WPI; 2002-242031/29.
                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hordeum sp.
Racillus lentus.
                                                                                                                                                                                             fusion sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200218588-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-AUG-2003
16-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-MAR-2002.
Pedersen PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chimeric.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAD34434;
                                                                                                                                                                                                                                                                             14
                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                172
                                                                                                                                                                                                                                                                                                                     74
                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
AAD34434
                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                       쉱
                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                     à
```

```
The invention relates to a method for screening a protease/protease method comprises introducing a first gene of the protease gene library method comprises introducing a first gene of the protease gene library and a second gene encoding a protease inhibitor into a host cell, wherein the cell expresses the first and the second gene encoding a protease inhibitor into a host cell, wherein the cell expresses the first and the second genes to produce a complex of a protease and the inhibitor; dissociating the inhibitor from the complex and selecting the protease of interest and isolating the encoding gene, A complex may be used for a number of industrial applications, in particular within the detergent industry, thus, relates to a cleaning or detergent composition, preferably a laundry or dishwash composition including a laundry detergent composition including a laundry detergent composition including a laundry detergent composition including a rins added composition, or be formulated as a detergent composition for use in general household hard surface cleaning operations. The present sequence is a construct encoding a transcriptional fusion product containing C-terminal region of subtilisin 309 (savinase) and barley chamber the sequence is a construct encoding a transcriptional fusion product containing c-terminal region of subtilisin 309 (savinase) and barley chamber 29-AUG-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    172 idcharcdarrerreagaaaagaagaadaccaraaaaraccrrerererereagaca 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               291
Screening protease/protease inhibitor gene library for gene encoding the same, by constructing host cell having the gene, cultivating cell, dissociating complex formed between them, selecting protein and isolating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  232 GGGTAITTTTTATCTGTCCAGACTGTCCGCTGTGAAAAAAAAGAAGGAGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Protease; allergenicity; detergent; subtilase; Sl1; Sl2; additive; protease inhibitor; barley; chymotrypsin; CI-2A; fusion protein; subtilisin; savinase; apr gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 6; Length 2267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        292 GTTATTTACTGATATGTPAAATATAATTTTGTATAAGAAAATG 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2267 BP; 640 A; 462 C; 601 G; 564 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 134 GACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA construct B comprising Savinase-CI-2A fusion sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indele
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .8e-34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 2.86
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86.3%; Score 159.6;
                                                                                                                                                                                         Example 1; Page 48; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL40499 standard; DNA; 2267 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-JUL-2001; 2001WO-DK000479.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200216619-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bb.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Simi
Matches 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bacillus sp.
Hordeum sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
```

0; Gaps

Query Match

86.3%; Score 159.6; DB 6; Length 2267;

Best Local Similarity 97.6%; Pred. No. 2.8e-34;

Matches 162; Conservative 0; Mismatches 4; Indels 0;

Search completed: March 19, 2004, 01:38:17 Job time : 218 secs

```
March 19, 2004, 00:23:20; Search time 1078.5 Seconds (without alignments) 7434.827 Million cell updates/sec
                                                                                                                                US-09-834-271A-26
185
1 ggccttaagggcctgcaatc......tgtataagaaaatggagctc 185
                                                                                                                                                                                                                                                      6940544
GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                           3470272 segs, 21671516995 residues
                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                     IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_htgo_hum:*
em_htgo_mus:*
em_htgo_other:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em htg hum:*
em htg inv.*
em htg obher:*
em htg mus.*
em htg rod:*
em htg rod:*
em htg roy:*
em btg vrt:*
                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                     gb ba:
gb htg:
gb htg:
gb ow:
gb ow:
gb by:
gb bl:
gb rc:
gb rc:
gb rc:
gb vi:
em fun:
em fun:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     en_in:*
em_om:*
em_or::*
em_ov::*
em_ov::*
em_pat::*
em_pl::*
em_pl::*
em_to::*
em_to::*
                                                                                                                                                                                                                                                                                                                                                                             GenEmbl:*
                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                              Sequence:
                                                                                                                                                                                                                             Searched:
                                                                              Run on:
```

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES
*

8	334446	·	ப்பகைகைகைப்ப	· · ·	ID AR160502 AX088920 BD134798 AR160503 AX08921	ption 102 Sequence 120 Sequence 198 Process 103 Sequence 121 Sequence
Інанананана		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000		BD136799 AR160501 BD136797 140596 140867 140895 156837 BD174625 BAANYL	999 Process 101 Sequence 197 Process Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Sequence Non Norleotid
V 80 00 40 80 40 80 V 80 40 40 40 40 40 40 40 40 40 40 40 40 40			77777		A00156 A00157 A00158 A00604 A00605 A008285 AR037275 AR052145 AR052145 AR135916 AR137905	A00156 Nucleoride A00157 Nucleoride A00158 Nucleoride A00604 B.amyloliqu A00605 B.amyloliqu A00605 B.amyloliqu A006285 Sequence AR03215 Sequence AR03215 Sequence AR037551 Sequence AR0375916 Sequence AR129916 Sequence
2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	υυυυυυυυυ <u>υ</u> υυυυυυ	AR143262 BD23031 AR224261 AR285306 AR28861 AR305020 AX339268 AX339268 AX339268 AX339268 AX339268 AX339268 AX339268 AX30182 AX30182 AX3018305 BD085805 AR168304 AR168305 BD19288 BD193368	AR143262 Sequence BD230131 Alpha-amy AR224261 Sequence AR285306 Sequence AR28651 Sequence AX305020 Sequence AX305020 Sequence AX370717 Sequence AX370717 Sequence AX370717 Sequence AX570782 Alpha-amy BD085805 Alpha-amy BR168304 Sequence BD249244 Alpha-amy AR15288 Sequence BD249244 Alpha-amy AR215288 Sequence BD37366 BD249244
ARIGOS LOCUS LOCUS DEFINITION ACCESSION VERSION VERYWORDS SOURCE ORGANISM TITLE JUTHORS TITLE JUTHORS FERRICE FEFERRORE AUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS TITLE JUTHORS JUTHORS AUTHORS TITLE JUTHORS JUTH	AR1 Seq Seq AR1 AR1 Unk Unk Unk Unk Wid Met)502 2006 2 2006 2 2502.1 2007. 2007. 2008 5 2008 1 2008 1 2008 1 2008 1	from GI:1 GI:1 Sloma Sloma r psrod cotio	# # # F4S	ALIGNMENTS 185 bp DNA 186 6255076. 7 Thomas, M.D. 1 Thomas, M.D. 2 Olypoptide in a solypoptide in a lifers	linear PAT 17-OCT-2001 Bacillus cell

```
ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bacillus
JP 2002504379-A/26
JP 2002504379-A/26
26-FEB-1999 JP 2000533574
26-FEB-1999 US 09/031442
MILLIAM WIDNER, ALAN SLOMA, MICHAEL D THOMAS
G12N15/09, C12N1/21, C12N9/54//C07K14/325, (C12N1/21, C12R1:07),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 GGCCTTAAGGGCCTGCAATCGATTGTTTTGAGAAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Process for producing polypeptide in bacillus cells FH Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in a Bacillus cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                    Length 185;
                        DD136798.1 GI:23231743

TP 2002564379-A/26.

Unidentified
unclassified
unclassified
unclassified
1 (Dess 1 to 185)
Widner,W., Sloma,A. and Thomas,M.D.

Widner,W., Sloma,A. and Thomas,M.D.

Process for producing polypeptide in bacillus cells
Parent: UP 2002504379-A 26 12-FEB-2002;
NOVO NORDISK BIOTECH INC
for producing polypeptide in bacillus cells
                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 185; DB 6; Length 1.
llarity 100.0%; Pred. No. 7.2e-35;
Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 9
                                                                                                                                                                                                                                                                                                           /organism='Bacillus'
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 Unknown.
Unknown.
Unclassified.
2 1 (bases 1 to 185)
S Widner, W. Sloma, A. and Thomas, M.D.
Methods for producing a polypeptide in
Methods for producing a polypeptide in
Location/Qualifiers
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.1%; Score 183.4; DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            185 bp 1
Sequence 27 from patent US 6255076.
AR160503
AR160503.1 GI:16224480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                        1. .185
/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 185; Conserva
                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unknown
                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 4
AR160503
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                            source
 DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                            REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                 PAT 17-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT 18-SEP-2002
                                                                                                                                                                            ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                61 CTGTCATCAGACAGGGTAFTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 ATAAAGGGGGGGTTGACATTATTTTACTGATATGTATAATATTATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                               GGCCTTAAGGGCCTCCAATCGATTGTTTGAGAAAAGAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacillus subtilis
Bacteria, Firmicutes, Bacillales, Bacillaceae, Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Thomas, M.D. and Brown, K.M.
Polypeptides having pectin acetylesterase activity and acids encoding same
Patent: WO 0114534-A 21 01-MAR-2001;
Novozymes Blotech, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 185;
                                                                   Length 185
                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                              Indels
                                                                   Query Match
Best Local Similarity 100.0%; Pred. No. 7.2e-35;
Matches 185; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 185; DB 6; al Similarity 100.0%; Pred. No. 7.2e-35; 185; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423"
               /organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                   AX088920
Sequence 21 from Patent WO0114534.
AX088920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 đq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 185
                                                                                                                                                                                                                                                                                                                                                                                                                       AX088920.1 GI:13397679
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacillus subtilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  185
                                                                                                                                                                                                                                                                                       181 AGCTC 185
                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Si
Matches 185;
                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 3
BD136798
LOCUS
                                                                                                                                                                                                                                                                                                                                                       RESULT 2
AX088920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                              В
                                                                                                                                                                            ઠે
                                                                                                                                                                                                  白
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                       \overset{\ }{\circ}
                                                                                                                                                                                                                                                                                                         셤
                                                                                                                           à
```

ô

Gaps

. 0

9 9

Key

120

PAT 17-OCT-2001

DNA

BD136798

```
PAT 17-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JP 2002504379-A/27

12-FEB-2002

26-FEB-1999 JP 2000533574

26-FEB-1998 US 09/031442

MILLIAM WIDNER,ALAN SLOMA,MICHAEL D THOMAS

C12N15/09,C12N1/21,C12N9/54//C07K14/325,(C12N1/21,C12R1:07),
                                                                                                                                                                                                                                                                                                                                                                                                                      GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAGAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                              121 ATAAAGGGGGTTGACATTATTTACTGATATGTATAATATAATTTGTATAAGAAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAAAAAGAAGACCATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                 Process for producing polypeptide in bacillus cells FH Location/Qualifiers
                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unclassified.

1 (bases 1 to 185)
Widner,W., Slomar,A. and Thomas,M.D.
Methods for producing a polypeptide in a Bacillus cell
Patent: 18 6255076-A. 25 03-JUL-2001;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 178.6; DB 6; Length 185;
Pred. No. 2.6e-33;
0; Mismatches 4; Indels 0
                                                                                                                                                                                                                                                                                                         Length 185;
      (bases 1 to 185)
Widner,W., Sloma,A. and Thomas,M.D.
Process for producing polypeptide in bacillus cells
Patent: UP 2002504379-A 27 12-FEB-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                         ..
                                                                                                                                                                                                       'organism='Bacillus'
                                                                                                                                                                                                                                                                                                      Score 183.4; DB 6
Pred. No. 1.8e-34;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 25 from patent US 6255076. AR160501 GI:16224474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="unknown"
/wol_type="unassigned DNA"

    .185
    /organism="unidentified"
    /mol_type="genomic DNA"
    /db_xref="taxon:32644"

                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                         99.1%;
99.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96.5%;
97.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 97.8
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1, .185
 unclassified.
                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Unknown
                                                                                                                                                                                                                                                                                                                                Matches 184;
                                                                         덁
                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
           REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 7
AR160501
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                     FEATURES
                                                                       COMMENT
                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 18-SEP-2002
                                                                                                                                                                                                                                                                      PAT 17-MAR-2001
                                                                                   120
                                                                                                 180
                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATAAAGGGGGGTTGACATTATTTTACTGATATGTATAATATTTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                    60
                                                          9
                                                                                   ITTATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGA
                                                                                                                                  nucleic
             Gaps
             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                     Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus
                                                                                                                                                                                                                                                                                                                                                                                          Polypeptides having pectin acetylesterase activity and acids encoding same acids encoding same Patent: WO 0114534-A 22 01-MAR-2001; Novozymes Biotech, Inc. (US) Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
99.1%; Score 183.4; DB 6; Length 185;
Best Local Similarity 99.5%; Pred. No. 1.8e-34;
Matches 184; Conservative 0; Mismatches 1; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Process for producing polypeptide in bacillus cells. BD136799 G1:23231744 D7 2002504379-A/27. unidentified
                                                                                                                                                                                                                                                                      linear
             Indels
Pred. No. 1.8e-34;
0; Mismatches 1;
                                                                                                                                                                                                                                                                       DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .185
/organism="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423"
                                                                                                                                                                                                                                                                    AX088921 185 bp
Sequence 22 from Patent WO0114534.
AX088921
                                                                                                                                                                                                                                                                                                                                                                               Thomas, M.D. and Brown, K.M.
         0,
                                                                                                                                                                                                                                                                                                         AX088921.1 GI:13397680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGTCATCAGACAGGGTATT
99.5%;
Best Local Similarity 99.5
Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                Bacillus subtilis
Bacillus subtilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      185
                                                                                                                                                                                  181 AGCTC 185
                                                                                                                                                                                                        AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 6
BD136799
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
CEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                           RESULT 5
AX088921
                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                        g
                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \delta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                    8
                                                        d
                                                                                   ઠે
                                                                                                                                                       ద
                                                                                                                                                                                  ò
                                                                                                                                 8
```

9

9

9

9

Key

ö

120

9

```
PAT 13-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 ATTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAAGGAATAAAGGAGGGGGTTGTTA 120
                                                                                                                                                                                                                                                                                                                                                                          ATAAAGGGGGGTTGACATTATTTACTGATATGTATATAATTTTGTATAAGAAAATGG 180
                                                                                                                                                                                                                                                                                                                                                                                           Unclassified.
(Tobase 1 to 162)
Sloma, A.P., Outtrup, H., Dambmann, C. and Aaslyng, D.A.
Nucleia, acid constructs for the production of a Bacillus alkaline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacillus
JP 2002504379-A/25
12-PEB-2002
26-PEB-1999 JP 2000533574
26-PEB-1999 US 09/031442
MILLIAM WIDNER, ALAN SLOMA, MICHAEL D THOMAS
GI2N15/09, GI2N1/21, CI2N9/54//CO7K14/325, (CI2N1/21, CI2R1:07),
GI2N15/09
                                                                                                                                                                                                                                                                                                                                           1 eccritaacccroctarroarrorricacaaacaacaacaacaraaaaaaaaaraccrocr
                                                                                                                                                                                                                                                       Gaps
                                                                                             Process for producing polypeptide in bacillus cells Location/Qualifiers
                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           itch 84.1%; Score 155.6; DB 6; Length 162; sal Similarity 97.5%; Pred. No. 1.1e-27; 158; Conservative 0; Mismatches 4; Indels 0
                                                                                                                                                                                                                               Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                  ; b. 2.6e-33;
                                                                                                                                                                                                                                 DB 6;
                                                                                                                     ce 1. .185
/organism='Bacillus'
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                               Score 178.6; I
Pred. No. 2.6e-
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent: US 5621089-A 24 15-APR-1997;
Location/Qualifiers
1. 162
/organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          162 bp
Sequence 24 from patent US 5621089.
140596.1 GI:2082888
                                                                                                                                                          1. .185
/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                                                                                                                                                                 96.5%;
                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      185
                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                              181 AGCTC 185
                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                                                                                                                                                                                                                               Query Match
Best Local Simil
Matches 181; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S:
Matches 158
   SEGRETESS
                                                                                                                   FT
                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
140596
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                FEATURES
   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                               ठ
                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT 18-SEP-2002
                                                                                                                                                                                               PAT 17-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                               180
                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 ATAAAGGGGGTTGACATTATTTTACTGATATGTATAATATAATTTGTATAAGAAAATGG 180
                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09
                                                                                                                                                                                                                                                                                                       Thomas, M.D. and Brown, K.M.
Polypeptides having pectin acetylesterase activity and nucleic acids encoding same
Patent: WO 10114534-A 20 01-MAR-2001;
Novozymes Biotech, Inc. (US)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGTCATCAGACAGGGTATTTTTTATGCTGTCCAGACTGTCCGCTGTGTAAAAATAGGA
                                                               GGCCTTAAGGGCCTGCAATCGATTGTTTGAGAAAAGAAGAAGAACATAAAAATACCTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                           Bacillus subtilis
Bacillus subtilis
Bacteria, Firmicutes, Bacillales, Bacillaceae, Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 6; Length 185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Process for producing polypeptide in bacillus cells. BD136797 BD136797 I G1:23231742 UP 2002504379-A/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Midner,W., Sloma,A. and Thomas,M.D.
Widner,W., Sloma,A. and Thomas,M.D.
Process for producing polypeptide in bacillus cells
Patent: UP 2002504379-A 25 12-FEB-2002;
NOVO NORDISK BIOTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 178.6; DB 6; Length
Pred. No. 2.6e-33;
0; Mismatches 4; Indels
                                                                                                                                                                                                  linear
                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                           /organism="Bacillus subtilis"
/mol_type="unassigned DNA"
/db_xref="taxon:1423"
                                                                                                                                                                                                AX088919 185 bp
Sequence 20 from Patent WO0114534.
AX088919
                                                                                                                                                                                                                                     AX088919.1 GI:13397678
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 97.8%;
Matches 181; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 AGCTC 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTC 185
                                                                                                                181 AGCTC 185
                                                                                                                                       AGCTC 185
                                         61
                                                                121
                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
BD136797
LOCUS
DEFINITION
ACCESSION
VERSION
VERYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                           DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                          RESULT 8
AX088919
LOCUS
                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                        ద
                                                                  ઠ
                                                                                        엄
                                                                                                               ò
```

ö

PAT 07-0CT-1997

```
Unclassified.

1 (bases 1 to 162)

Sloma, A.P., Outtrup, H., Dambmann, C. and Aaslyng, D.Anita.
Sloma, A.P., Outtrup, H., Dambmann, C. and agene encoding a Bacillus alkaline protease and vectors comprising same
Patent: US 5650326-A 24 22-JUL-1997;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78 ATTITITATIGCTGTCCAGACTGTCCGCTGTGTAAAAAAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 ATTITITATIGCTGTCCAGACTGTCCGCTGTGTAAAATAAGGAATAAAGGGGGGGTTGTTA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OS Bacillus amyloliquefaciens
OS Bacillus amyloliquefaciens
PD 24-SEP-2002
PD 12-SEP-2002
PD 12-SER-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-MAR-2001
PD 12-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Arccarrerrereasaaasaasaasacaraaaaaracerrererereasaasaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 TTATTTACTGATATGTAAAATATAATTTGTATAAGAAAATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138 TTATTTTACTGATATGTATAATATTTGTATAAGAAAATG 179
                                                                               TTATTTTACTGATATGTATAATATATTTGTATAAGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84.1%; Score 155.6; DB 6;
llarity 97.5%; Pred. No. 1.1e-27;
Conservative 0; Mismatches 4;
                                                                                                                                                                                                                   162 bp 1
Sequence 24 from patent US 5650326.
156837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .162
/organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                       I56837.1 GI:2477250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 158; Conserv
                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                                                                                                                                                                       Unknown
78
                                                                                 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                RESULT 13
156837
                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
BD174625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                연
  à
                                   셤
                                                                                   ò
                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                             Unknown.
Unclassified.
Unclassified.
Unclassified.
Sloma, AP. Outtrup, H., Dambmann, C. and Aaslyng, D.A.
Sloma, AP., Outtrup, H., Dambmann, C. and Aaslyng, D.A.
Method for the production of heterologous polypeptides using a promoter element and signal peptide of a bacillus gene encoding an alkaline protease.
Patent: US 5622841-A 24 22-APR-1997;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAT 13-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                               PAT 13-MAY-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  78 ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGTTGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unclassified.

1 (bases I to 162)

2 (bases I to to 162)

Slome, P.P., Outtrup, H., Dambmann, C. and Aaslyng, D.A.
Recombinant methods for the production of a bacillus alkaline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                               linear
  TTATTTTACTGATATGTATATATATTTGTATAAGAAAATG 179
                                   TIATITITACIGATAIGATAATATAATITIGATAAGAAATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 TTATTTTACTGATATGTATATATATTTGTATAAGAAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 TTATTTTACTGATATGTAAAATATAAATTTGTATAAGAAAATG 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 84.1%; Score 155.6; DB 6; Best Local Similarity 97.5%; Pred. No. 1.1e-27; Matches 158; Conservative 0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 155.6; DB 6;
Pred. No. 1.1e-27;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protease
Patent: US 5622850-A 24 22-APR-1997;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .162
/organism="unknown"
/mol_type="unassigned DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               162 bp
US 5622850.
                                                                                                                                        Sequence 24 from patent US 5622841.
140867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 24 from patent 140895.1 GI:2082375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84.1%;
ilarity 97.5%;
Conservative (
                                                                                                                                                                                                        GI:2082347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                          140867.1
                                                                                                                                                                                                                                                  Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 I40895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 158;
    138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18
                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                   RESULT 11
140867
                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
I40895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                    ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
    ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

ö

Gaps

. 0

17 9 PAT 18-MAR-2003

```
ò
                                                                      g
        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amylase; amylase-alpha; signal peptide.

Bacillus amyloliquefaciens
Bacillus amyloliquefaciens
Bacillus amyloliquefaciens
Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.

1 (bases 1 to 537)
Palval., Pettersspon, R.F., Kalkkinen, N., Lehtovaara, P., Sarvas, M., Palval., Takkinen, R.F., and Kaariainen, L.

Nucleotide sequence of the promoter and NH2-terminal signal peptide region of the alpha-amylase gene from Bacillus amyloliquefaciens
Gene 15 (1), 43-51 (1981)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /transl_table=11
/protein_id="CAA23430.1"
/protein_id="CAA23430.1"
/bc.xref="GI:39298"
/db.xref="GOA:900692"
/db.xref="GOA:900692"
/db.xref="SWISS-PROT:P00692"
/translation="WIQKRKRTVSFRLVIMCTLLFVSLPITKTSAVNGTLMQYFEWYTPNGGHWKRLQNDAEHLSDIGITAVWIPPAYKGLSQSDNGYGPYDLYDLGEF"
250. .342
/note="signal peptide"
                                                                                                                                                                                                                                                                                                                                                                                                                                                               BAAMYL 537 bp DNA linear BCT 04-APR-1995
Bacillus amyloliquefaciens gene fragment encoding alpha-amylase.
(EC 3.2.1.1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTITITATGCTGTCCAGACTGTCCGCTGTGTAAAAAAAAGGAATAAAGGGGGGTTGACA 137
                                                                                                                                                                                                                                                                                                   Gaрв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
/organism='Bacillus amyloliquefaciens'
1. .249
1. organism="Bacillus amyloliquefaciens"
/mol type='genomic DNA"
/db_xref="taxon:1390"
                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84.1%; Score 155.6; DB 1; Length 537; llarity 97.5%; Pred. No. 8.3e-28; Conservative 0; Mismatches 4; Indels 0;
                                                                                                                                          84.1%; Score 155.6; DB 6; Length 249; Larity 97.5%; Pred. No. 9.7e-28; Conservative 0; Mismatches 4; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50. >537
note="unnamed protein product; amylase"
                                                                                                                                                                                                                                                                                                                                                                     138 TTATTTTACTGATATGTATATATATTTGTATAAGAAATG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .537
Corganism="Bacillus amyloliquefaciens"
(mol_type="genomic DNA"
(Mol_type="genomic DNA"
250. >>537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            codon_start=1
transl_table=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 158; Conserv
                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6170539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sig_peptide
                                                                                                                                                                                158;
            H
                                                                                                                                                                                                                                                                                 78
                                                                                                                                              Query Match
                                                                                                                                                                 Best Local
Matches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                   8
```